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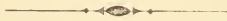
MONTHLY REPORT

OF THE

DEPARTMENT OF AGRICULTURE

FOR

JULY, 1873.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1873.





# MONTHLY REPORT.

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## CONDITION OF THE CROPS IN JULY.

During the month of June, conditions of vegetable growth were remarkably diversified in different parts of the country. In the New England and Middle States and as far south as the Chesapeake Bay, the general character of the season was one of drought; in many counties disastrous to vegetation. The opposite class of hygrometrical conditions prevailed in the South Atlantic and Gulf States, where the rain-fall was enormous in some localities and excessive in its general average. Cases are reported in which nearly every day of June was rainy. The ground became thoroughly saturated, and the grass gained such headway that many fields of corn and cotton were abandoned. This abundance of moisture, however, was unfavorable to the development of insect life, and consequently the depredations upon the cotton-crop were much less than the previous reports had given ground to fear. In the inland Southern States—Arkansas, Tennessee, West Virginia, and Kentucky—the rain-fall was abundant, and in many places excessive, but not to so injurious an extent as in the States farther south. South of the Ohio River the rains were generally moderate, and in many places the weather was reported very fine. Westward an increase of atmospheric disturbances is noticeable; heavy storms of wind, rain, hail, with thunder and lightning, were frequently destructive of growing crops. West of the Mississippi accounts are somewhat variant, the majority, however, showing an abundant rain-fall, while in no case is the drought severe. Heavy hail-storms are reported in this quarter also. In California the general character of June was cool and dry, with exceptions, especially in the northern part of the State. In Oregon the rain was more general and heavy; in some cases enabling farmers to dispense with irrigation entirely. In Linn County the rain-fall was greater than for twenty years.

### WHEAT.

Our statistical correspondence represents a larger number of counties than in any previous report. Returns have been received from 918 counties growing winter-wheat, and from 337 growing spring-wheat; the former have increased 167 and the latter 51 since the June report, showing a total increase of 218. These returns have been carefully analyzed, and a synopsis of their statements will be found in the tabulated exhibits accompanying this article. The following table shows the status of all the counties reporting in regard to both winter and spring wheat:

| States.             | Winter-wheat.           |                   |                         | Spring-wheat.           |                   |                         |
|---------------------|-------------------------|-------------------|-------------------------|-------------------------|-------------------|-------------------------|
|                     | Counties above average. | Counties average. | Counties below average. | Counties above average. | Counties average. | Counties below average. |
| Maine.....          |                         | 1                 | 1                       | 1                       | 2                 | 6                       |
| New Hampshire.....  | 1                       | 2                 | 3                       |                         | 4                 | 4                       |
| Vermont.....        | 1                       | 1                 | 2                       | 1                       | 2                 | 6                       |
| Massachusetts.....  |                         | 3                 |                         | 1                       | 1                 | 2                       |
| Rhode Island.....   |                         |                   |                         |                         |                   |                         |
| Connecticut.....    |                         | 1                 | 1                       |                         |                   | 1                       |
| New York.....       | 1                       | 7                 | 31                      | 1                       | 3                 | 24                      |
| New Jersey.....     | 4                       | 6                 | 3                       |                         |                   | 1                       |
| Pennsylvania.....   | 17                      | 13                | 16                      |                         | 3                 | 11                      |
| Delaware.....       | 1                       | 1                 | 1                       |                         |                   |                         |
| Maryland.....       | 4                       | 4                 | 7                       |                         | 1                 |                         |
| Virginia.....       | 12                      | 21                | 33                      |                         |                   |                         |
| North Carolina..... | 4                       | 15                | 32                      |                         | 5                 | 8                       |
| South Carolina..... |                         | 2                 | 10                      |                         |                   |                         |
| Georgia.....        | 8                       | 13                | 25                      |                         |                   |                         |
| Florida.....        |                         |                   |                         |                         |                   |                         |
| Alabama.....        | 3                       | 7                 | 13                      |                         |                   |                         |
| Mississippi.....    | 1                       | 5                 | 1                       |                         |                   |                         |
| Louisiana.....      |                         |                   |                         |                         |                   |                         |
| Texas.....          | 3                       | 5                 | 10                      |                         |                   |                         |
| Arkansas.....       | 9                       | 4                 | 5                       |                         |                   |                         |
| Tennessee.....      | 5                       | 8                 | 40                      |                         | 3                 | 11                      |
| West Virginia.....  | 7                       | 7                 | 15                      |                         |                   |                         |
| Kentucky.....       | 6                       | 12                | 23                      |                         |                   |                         |
| Ohio.....           | 22                      | 17                | 18                      |                         | 3                 | 12                      |
| Michigan.....       | 10                      | 4                 | 22                      | 5                       | 8                 | 7                       |
| Indiana.....        | 8                       | 14                | 30                      |                         | 2                 | 5                       |
| Illinois.....       | 6                       | 11                | 34                      | 1                       | 4                 | 2                       |
| Wisconsin.....      | 5                       | 2                 | 17                      | 6                       | 8                 | 9                       |
| Minnesota.....      | 12                      | 10                | 12                      | 2                       | 13                | 1                       |
| Iowa.....           | 2                       | 5                 | 9                       | 25                      | 16                | 6                       |
| Missouri.....       | 27                      | 16                | 22                      | 7                       | 9                 | 6                       |
| Kansas.....         | 21                      | 8                 | 8                       | 16                      | 11                | 7                       |
| Nebraska.....       | 1                       | 4                 | 6                       | 10                      | 4                 | 3                       |
| California.....     | 5                       | 3                 | 12                      | 1                       | 2                 | 10                      |
| Oregon.....         | 10                      | 2                 | 1                       | 10                      | 4                 |                         |
| Total.....          | 216                     | 234               | 468                     | 87                      | 108               | 142                     |

Of counties reporting winter-wheat, those above average have increased 14, or nearly 7 per cent.; counties average 66, or nearly 40 per cent.; counties below average 87, or 23 per cent. Winter-wheat improved during the month of June, in the general average, of the following States, viz: Delaware, Maryland, Virginia, Mississippi, Texas, Arkansas, Kentucky, Ohio, Indiana, Minnesota, Iowa, California, and Oregon. These States produced considerably more than half the crop of 1872. The condition of the crop during June remained stationary in New Jersey, Georgia, Illinois, and Missouri. Rhode Island, Florida, and Louisiana made no returns. A decline is shown in the remainder of the States, which produced about one-third of the crop of 1872. From a careful estimate of all the conditions of growth that have come within the purview of this investigation it would appear that the prospective yield of winter-wheat is substantially enhanced since our last report.

A large proportion of the winter-wheat, in several of the States, was reported in June as winter-killed. As the season advanced, however, it was discovered that in many cases the crop was only thinned out, and that its increased size and weight of heads and plumpness and beauty of berry promised a very considerable compensation for the losses of winter. An improvement in quality was also quite generally noted in several of the largest wheat-growing districts. In a large number of counties, however, wet weather during harvest not only de-

layed the gathering of the crop, but also threatened to injure it in the shock.

It was observed that early-sown fields of winter-wheat were far more promising than those later sown. The advantage of early-ripening varieties was also indicated by the fact that these escaped the ravages of insect enemies, which entirely swept some of the later crops. Of these early-ripening varieties the Fultz and Tappahannock from the Department, especially the Fultz, receive very frequent and honorable mention.

Of counties growing spring-wheat the number above average declined during June from 103 to 87, and counties average from 115 to 103, while the counties below average have increased from 63 to 142. The general condition of spring-wheat was enhanced in Ohio, Wisconsin, Nebraska, California, and Oregon. It declined in all the New England and Middle States, and in all the Northwestern States except those just mentioned. There is but casual mention of spring-wheat in the South. In New England the dry weather interfered with the growth of the crop, while in the Northwest, in many localities, a variety of insect enemies—the Hessian fly, the grasshopper, the chinch-bug, &c.—very seriously injured the crops. The deterioration of spring-wheat appears to have been greater in proportion than the improvement of winter-wheat, yet the larger amount of the latter grown in the country will probably restore the equilibrium. Upon a careful consideration of all points in the problem, the prospective wheat-yield of 1873, judging from its condition on the 1st of July, appears about the same as at the 1st of June, or about 220,000,000 bushels.

MAINE.—*Oxford*: Wheat a good set, but drying up.

VERMONT.—*Grand Isle*: Winter-grain wintered well. *Addison*: Early-sowed grain came forward rapidly with early showers, but suffers from late drought.

MASSACHUSETTS.—*Norfolk*: Wheat having had an early start, is not so much affected by the drought.

NEW YORK.—*Schoharie*: Winter-wheat looks well. *Wyoming*: Below average; winter-killed. *Chautauqua*: Winter-wheat thin, but well filled. *Livingston*: Mostly poor.

NEW JERSEY.—*Warren*: Fine; straw bright and clean; grain full and plump. *Morris*: Winter-wheat better than for many years. *Burlington*: Good quality. *Canden*: Early-sown wheat good; late-sown thin, but not rusty; drilled always best.

PENNSYLVANIA.—*Northampton*: Well ripened by cool weather while in bloom, causing it to fill well. *Montgomery*: Drought favorable to wheat; straw well grown; kernels well developed; promises an abundant harvest. *Lancaster*: Southern part of the county promises the largest crop ever grown. *Westmoreland*: Ripening very unevenly, but the berry is well filled; Fultz wheat badly winter-killed. *York*: Fields thick-set; of full growth and plenteous promise. *Armstrong*: Harvest two weeks late. *Clearfield*: Fair promise. *Chester*: Later varieties a little rusted; some injured by fly; otherwise it looks well. *Erie*: Unusually good. *Fayette*: Has wonderfully improved; the farmers who expected to get only their seed will have half a crop. *Washington*: Tappahannock first ripened. *Lebanon*: A tenth above average. *Snyder*: Best crop for many years. *Greene*: Crop short, but grain good. *Tioga*: Spring-wheat injured by drought. *Indiana*: Grain well filled.

MARYLAND.—*Montgomery*: Some fields very good; others below average; a white worm injuring the roots and destroying the crop in some cases. *Washington*: Improved lately in some places; in others injured by the fly. *Howard*: Good straw; average crop promised. *Talbot*: Fine harvest weather. *Saint Mary's*: Better than was expected; thin but well ripened. *Baltimore*: Somewhat injured by the fly, but the crop generally good; October seeding less injured than the earlier. *Kent*: Crop promising; season very favorable. *Caroline*: Straw short but heads good; much winter-killed. *Queen Anne*: Harvested in fine condition; later ripening grain particularly fine and plump.

VIRGINIA.—*Spottsylvania*: Crop very promising; heads full of fine large grains. *Pulaski*: Ten days late and but a third of an average. What escaped winter looks well; no indications of rust. *Bedford*: Crop shortened at least half by winter-killing; rust and smut also injuring some fields; others prostrated by a heavy storm. *Warwick*: Harvesting very indifferently; excess of rain has made it run to straw. *Rappahannock*: Rain threatens to injure the ripening wheat. *Fluvanna*: Remarkably good where not winter-killed; heads well filled. Tappahannock and Fultz have both done well; Tou-



zelle too late for the climate. *Page*: Harvesting well; grain good but yield 25 per cent. below average. Lancaster and amber varieties best for this climate. Rain now falling may injure the crop. None of the smooth wheats have matured well. *Stafford*: Better than last year. *Wythe*: Not over half a crop; few use the drill; drilled wheat looks much the best, especially when early sown. *New Kent*: Fine in quality. *Orange*: Damaged by winter-killing and fly, but greatly improved by late favorable weather; quality good; Fultz the best. *Nelson*: Badly winter-killed and unpromising in April, but harvested unexpectedly well; heads and grains unusually large. *King George*: Wheat greatly improved; fine harvest weather. *Pouhacan*: Rains in May and fine June weather acted like magic, bringing the prospect to an average. *Clarke*: Since last report the Hessian fly has been very destructive on the crop; many fields destroyed and given to live stock for pasture. *Chesterfield*: Harvested in fine condition; excellent quality and large yield. *Washington*: One-half winter-killed. *Bath*: Very light. *Floyd*: What escaped winter-killing is fine, with large heads and superior grain. *Greenville*: Filled well; a tolerable crop. *Loudon*: Injured by fly; where no fertilizers were used the crop is a total failure. *Middlesex*: Light straw; good grain; average yield. *Craig*: Thin, but filling well and of good quality. *Culpeper*: Fultz excels all other wheats. *James City*: Fultz promises 20 for 1; very popular. *Cumberland*: Fultz a great success. *Fauquier*: Injured by drought in some places. *Gloucester*: Crop heavy and remunerative on good lands well fertilized and tilled; German red generally preferred to the smooth heads. *Madison*: Generally very sorry; some fields rusted; a few good crops where not winter-killed. *Mecklenburgh*: Quality never better; Touzelle and Tappahannock yielded well. *Henrico*: Came out wonderfully. *Smyth*: Better than was expected. *Montgomery*: Ten days late; bottom crops rusted. *Henry*: Short but good. *Halifax*: Injured by chinch-bug. *Highland*: Badly winter-killed. *Essex*: Quality excellent. *Prince George*: Damaged 20 per cent. by rust.

**NORTH CAROLINA.**—*Caldwell*: Largely winter-killed. *Burke*: Generally good. *Greene*: More or less injured. *Stanley*: Early red good; later varieties more or less injured. *Lincoln*: Marked improvement in wheat; farmers more hopeful of a fair yield. *Forsyth*: Better than was expected. *Catawba*: Broad-cast wheat froze out; drilled brings full crop. *Clay*: Almost a failure; Fultz very good. *Gaston*: Wheat shortened. *Davie*: Three-fourths of a crop; grain fine, heads large. *Guilford*: Winter-wheat in some places a half crop. *Davidson*: In many places winter-killed. *Alamance*: Very late harvest; 70 per cent. of a fair crop. *Gordon*: Not over 2½ bushels per acre. *Floyd*: Injured in the shock by wet. *Polk*: Injured by wet. *Jackson*: Touzelle not suited to the climate; Fultz excellent; stands winter well. *Stokes*: Touzelle did well; Tappahannock better.

**SOUTH CAROLINA.**—*Williamsburgh*: Yield reduced by heavy rains during the bloom. *Union*: Raise one-third of our supply. *Greenville*: Late sown a failure.

**GEORGIA.**—*Gwinnett*: Poor. *Gibner*: Damaged in shock by wet. *Marion*: Touzelle a failure; Tappahannock good. *Polk*: Injured by wet. *Jackson*: Touzelle not suited to the climate. *Cobb*: Injured by wet. *Whitfield*: Early sown wheat good; late sowing mostly a failure. *Upson*: Wheat promising. *Schley*: Thrashed out finely. *Madison*: Very sorry crop—three bushels per acre. *Muscogee*: Below expectation.

**ALABAMA.**—*Jackson*: Wheat shortened by heavy rains. *Barbour*: Heavy rains have injured wheat. *Blount*: Much damaged in the shock. *Clarke*: Tappahannock ruined by rust. *Crenshaw*: White wheat from the Department grows finely. *Randolph*: Crop injured. *Saint Clair*: Damaged by rain in the shock. *Calhoun*: Fultz better than most varieties. *Marshall*: Fultz wheat from the Department a great success. *Lee*: Touzelle wheat not suited to climate; Tappahannock good, but ten days later than the native purple straw.

**MISSISSIPPI.**—*Lee*: Wheat did well though somewhat shrunk; white wheat has a strong straw, enabling it to resist the heavy winds and rains. *Winston*: White wheat winter-killed.

**TEXAS.**—*Bell*: Much grain injured by rain; thrashed between showers. *Gonzales*: Tappahannock and Touzelle badly rusted; Algerian and Turkish flint better for this latitude. *Medina*: Nearly destroyed by grasshoppers. *Ellis*: But little saved; that cut with cradles is damaged. *Bandera*: Destroyed by grasshoppers. *Hunt*: Much loss in harvesting from impracticability of using machinery. *Burnet*: Injured by grasshoppers. *Victoria*: All the wheat eaten up by rust. *Lampasas*: Will be injured in the shock. *Coryell*: Contrary to expectation a half crop will be gathered. *Kaufman*: Injured by wet in the shock. *Lavaca*: Rust has destroyed small grain cultures. *Blanco*: Both winter and spring wheat acreage increased 50 per cent. *Dallas*: Bad harvest weather; sprouted in shock, yet the average yield is estimated at 20 bushels per acre. *Collin*: Rainy harvest has caused much grain to be injured in the shock. *Kendall*: Entirely destroyed. *Tarrant*: Greatly injured by rain.

**ARKANSAS.**—*Fulton*: Yield light; berry good. *Arkansas*: Little raised; experimental crops good, though thin. *Independence*: Never better. *Newton*: Injured by protracted rains; affected with the spot; Tappahannock and Fultz from the Department ten days earlier than native varieties.

TENNESSEE.—*Hamilton*: Harvest over; half a crop; badly frozen out, and in many places spotted. *Smith*: Injured by wet. *Meigs*: Cut short by winter-killing, rust, and spot. *Montgomery*: Rain threatens to injure the grain in shock; expected to thrash out half a crop; *Fultz* wheat did very finely; yields well and ripens early; if it redeems its promise it will supersede all other wheats. *Hancock*: Wheat that escaped winter-killing looked well till just before harvest, when it was greatly injured by spot; same fields not worth cutting. *Giles*: Wheat sprouting in the shock. *Loudon*: Not over a half crop. *Carter*: Does not stand so well as last year, but better filled; quality fine. *Fultz* promises a great yield. *Wilson*: Damaged by hard winter and scab; but little over a half crop. *Putnam*: Badly spotted. *Monroe*: Short 15 to 20 per cent. *Henry*: Some wheat sprouted in the shock. *Humphreys*: Mediterranean, Amber beard, Golden chaff, Tappahannock, and Little May have done well. *Bedford*: Injured by smut and scab. *Roane*: Partly winter-killed; much of it lodged. *Lincoln*: Sprouting in the shock. *Knox*: Injured by severe winter and wet spring. *Cannon*: Harvested poorly, being injured by scab; sprouting in the shock. *Bradley*: Badly winter-killed. *Sevier*: Thin, but good; three-fourths of a crop. *Grainger*: Half a crop, five bushels per acre. *Robertson*: Injured by rain.

WEST VIRGINIA.—*Monongalia*: Largely winter-killed, but grain good and heads well filled. *Raleigh*: Tolerable. *Pendleton*: Greatly improved; good crop. *Braxton*: Winter-wheat thinned by winter-killing, but of good quality; *Fultz* did not freeze out; its heads are well filled and grain plump. Tappahannock also good. *Barbour*: Well filled, but thin on the ground. *Pleasants*: On some soils the crop is good; on others it suffered from frost and rain. *Mercer*: Frozen out badly, hence a bad stand; midge destructive in some fields. *Jackson*: Harvested well. *Harrison*: Thin on the ground, but well filled; crop short. *Hardy*: In some localities badly winter-killed; in others more or less injured by the fly and chinch-bug; smooth varieties on low grounds considerably shortened by rust. *Cabell*: Some complaints of rust, smut, and midge. *Pocahontas*: Fair prospect. *Monroe*: Not over a third of a crop.

KENTUCKY.—*Owsley*: Mostly winter-killed, and what escaped was badly spotted; *Touzel* struck with black rust while in bloom; *Fultz* from the Department the best of all. *Boyle*: *Touzel* badly rusted. *Warren*: Crop well saved; grain good and crop satisfactory. *Johnson*: Injured by rain somewhat. *Clinton*: Better than was expected; grain well developed; will probably be injured in the shock. *Scott*: Harvest delayed by wet weather. *Russell*: Injured by fly and chinch-bug, yet a full average; Tappahannock a fair crop; *Fultz* 75 to 100 per cent. better; it is the finest wheat yet seen here. *McLean*: Thin, but grain good. Tappahannock and *Fultz* very successful, but the *Touzel* too late for the climate; it was badly winter-killed. *Mercer*: Damaged by frequent rains; *Fultz* much the most promising. *Logan*: Injured by smut, scab, and rust; cut wet and shocked wet, and will probably sprout in the shock. *Henry*: What escaped winter-killing has been greatly injured by the midge. *Taylor*: *Fultz* has done splendidly; *Touzel* a failure. The *Fultz* stands winter better than any other; brings fine large heads, 60 or 70 grains per head; grain large and plump; wheat will be damaged in the shock. *Lincoln*: Crop injured by rain. *Hardin*: Will average about 6 bushels per acre; *Fultz* will make 15 bushels. *Marion*: Generally affected with scab, but harvested in good condition; better crop than was expected. *Anderson*: Looks well; some complaints of light weight and insect injuries. *Shelby*: Thin on the ground, but over average; midge just reported. *Fayette*: Generally thin on the ground; late crops badly rusted; midge hard on late-sown wheat. *Butler*: Badly frozen out. *Laurel*: What escaped winter-killing looks well. *Adair*: Somewhat injured by rust.

OHIO.—*Hamilton*: *Fultz* wheat gives satisfaction. *Athens*: Bottom crops swept by floods. *Hancock*: Full average crop, but badly thrown down by late storms. *Holmes*: Well filled and good, but prostrated by late storms. *Washington*: Generally light on old and thin lands. *Warren*: Harvest in progress; it is feared that the great amount of rain will damage the grain in the shock. *Portage*: Looks well. *Ottawa*: Largely winter-killed. *Morrow*: Some fields good; others injured by wet; many rusted. *Delaware*: Within a few days rust has injured late winter and spring wheat, yet the crop is quite promising. *Fultz* wheat from the Department behaving splendidly; large yield and good flour. *Crawford*: Nearly average; but little rust. *Finton*: *Fultz* our best wheat. *Pickaway*: Tappahannock and *Fultz* wheats are very fine. *Lorain*: Very promising. *Erie*: Harvest late. *Ashtand*: Crop has come forward rapidly; straw copious and clean; berry full and plump. *Adams*: Unusually early harvest; crop will average from 7 to 9 bushels per acre. *Fultz* very fine; ripened June 24. *Medina*: Spring-wheat sown late and hurriedly; season not propitious, but a fine growing shower has lately fallen. *Jackson*: Good crop. *Greene*: Fine; crop safe. *Ross*: Crop a grand one. *Logan*: Crop heavy on bottom-lands, but through fall drought and winter-killing it is light on uplands, except where early sown. *Noble*: Best crop for many years.

MICHIGAN.—*Kalamazoo*: Greatly shortened by drought; not over a half-crop. *Nawaygo*: Fine June weather greatly improved the crop. *Montcalm*: Reduced a third



by winter-killing. *Lapeer*: Fair crop, except on hill-sides and ridges denuded of snow in winter by the winds. *Kent*: Badly winter-killed. *Benzie*: Rust has appeared. *Washtenaw*: Not a usual crop. *Tuscola*: Below average, but better than last year. *Shiawassee*: Largely winter-killed; heading short through drought. *McCusta*: Winter-wheat remarkably good; some fields average 40 to 50 bushels per acre; Fultz and Tappahannock succeeding better than the old standard varieties. *Hillsdale*: Largely winter-killed. *Clinton*: Suffered from the late drought. *Cass*: Lightest average in twenty years. *Van Buren*: Light crop. *Ionia*: Badly injured in winter. *Calhoun*: At least 10 per cent. winter-killed; injured by spring cold and drought. *Branch*: Not over two-thirds average.

INDIANA.—*Putnam*: Injured by late storms; much remains uncut, having been injured by chinch-bugs and black rust. *Brown*: Long heads well filled; grain large and plump; rather thin in the ground. *Miami*: Fultz splendid; promises to double the yield of the Egyptian in the same field. *Perry*: Badly blown down; late. *Morgan*: Heads large and well filled; grain fine; thin on the ground in many places. *Montgomery*: Thin on the ground in some places; where thick it has considerably fallen down on account of late winds and rains. *Wells*: Fultz ripened early; Arnold's Hybrid No. 9 promises well; wheat universally well headed, and will yield well in proportion to the straw. *Knox*: Considerably black-rusted by wet; damaged at least 15 per cent. *Jasper*: Most winter-wheat winter-killed; some fields protected by timber-belts escaped. French spring-wheat grew well till hot weather, when it died. *Howard*: Thin on the ground, but well headed and well filled. *Gibson*: Average; grain good. *Fulton*: Badly winter-killed; rain renders harvest precarious. *Franklin*: Badly injured by the fly. *Switzerland*: Best crop, both in quality and quantity, for years. *Stark*: Badly winter-killed, but what survived is well filled. *Noble*: Injured by winter; drought prevented it from filling well. *Newton*: What escaped winter-killing is doing well; spring-wheat, little sown, but promising. *La Porte*: Fly in the spring-wheat, which will not be over half a crop. *Harrison*: Better than was anticipated; thin, but well headed and well filled; weather favorable, but harvest late. *Hamilton*: Tolerable quality, but badly lodged; unfavorable harvest weather; much wheat will be lost. *Cass*: Light crops, but well headed; better than was anticipated. *Bartholomew*: Winter-wheat very good; harvest delayed by wet weather. *Kosciusko*: Badly winter-killed on prairies; extra near timber. *Dubois*: Thin, but well eared, and of good grain. *Lake*: Winter-wheat almost entirely winter-killed. *Owen*: Fine heads and healthy straw. *Orange*: Thin, but better headed and filled than last year; fields often choked with rag-weeds; Allen's hybrid excels; fully medium with good white wheat. *Decatur*: Badly winter-killed and injured by the fly. *Huntington*: Cut-worms in the crop in some places. *Scott*: Thin on the ground, but well headed. *Vanderburgh*: Fine breezes saved wheat from rust in the warm, wet weather.

ILLINOIS.—*Douglas*: Too wet for harvest. *Perry*: Wet time for harvest; wheat will be injured in the shock. *Ogle*: Spring-wheat looks well, but is in danger of spoiling from wet weather; winter grain injured by freezing. *Massac*: Injured by seab; thinned by freezing. *Lec*: French spring-wheat shows no indications of heading. *Fayette*: Looks well, but harvest weather is unfavorable. *Edgar*: Acreage of winter-wheat reduced 15 per cent. *Cass*: Rain delays harvest; spring-wheat injured by chinch-bugs. *White*: Some fields of winter-wheat plowed up for corn; wheat injured by chinch-bugs; grain generally good. *Richland*: Harvest delayed by heavy rains. *Cumberland*: Harvest late. *Stephenson*: Small grain getting a remarkably heavy growth. *Putnam*: Spring-wheat looks well. *Macon*: Harvest ten days late; Fultz and Tappahannock both froze out. *Lawrence*: Better headed than for many years; will be injured in the shock by wet, the storms having knocked the shocks down. *Lake*: Small grains doing finely. *Hancock*: Badly winter-killed. *Fulton*: Badly winter-killed, but coming out better than was expected; spring-wheat looks fine. *De Witt*: Spring-wheat very promising. *De Kalb*: Spring-wheat looks fine; winter-wheat not so good. *Clinton*: Very wet harvest; much grain will be damaged in the shock. *Carroll*: Provence spring-wheat has not headed; it is probably a winter-wheat. *Whiteside*: Small grain doing extremely well. *Pike*: Winter-wheat spotted by the winds of winter blowing snow from ridges; well headed and not so weedy as last year. *Jersey*: Good, well filled; harvest-weather fair. *Troquois*: Acreage of spring-wheat restricted by unfavorable spring. *Clark*: Crop better than was expected. *Sangamon*: Injured by hail-storm June 27; winter-wheat thin, but of good quality; spring-wheat generally very fine.

WISCONSIN.—*La Crosse*: Winter-wheat three-fourths winter-killed. *Outagamie*: Badly tangled by storms. *Dunn*: Early-sown wheat good. *Dane*: Spring-wheat threatened by chinch-bugs. *Calumet*: Some pieces, not sheltered by timber, winter-killed; spring-wheat never looked better. *Jefferson*: Winter-wheat completely winter-killed. *Green Lake*: Winter-wheat badly winter-killed. *Richland*: Heavy pieces of winter-wheat badly blown down; will thus be injured in filling. *Fond du Lac*: Excessive rain has caused an overgrowth of straw; many acres blown down and liable to rust

and rot; if the weather continues dry and cool we shall have the largest crop since 1860. *Brown*: Largely winter-killed.

MINNESOTA.—*Renville*: Looks well. *Goodhue*: Spring-wheat promises well. *Houston*: Partially winter-killed; spring-wheat never better; just headed out. *Martin*: Badly injured by grasshoppers. *Jackson*: Grasshoppers have ruined the crops, so that grain enough will not be raised in the county for home necessities. *Faribault*: Badly injured by wet, especially on low grounds. *Douglas*: Prospects never so good before. *Watowan*: Injured 20 per cent. by May and June rains. *Meeker*: Injured by wet on low heavy soils, but fine on light soils. *McLeod*: Wheat-culture giving way to stock-raising, to some extent. *Fillmore*: Very heavy on the ground and just heading out. *Dakota*: Grain of all kinds never looked better. *Cottonwood*: Spring-wheat prospect very fine up to June 15, since which time grasshoppers in large numbers have appeared, injuring all the crops; on some farms the wheat is entirely destroyed and the whole county reduced to half an average. *Carr*: Some fields winter-killed and plowed up; those that escaped look fine. *Wright*: Grain on prairie farms reduced one-half by heavy rains of May and June followed by hot weather. *Blue Earth*: Badly damaged by rain; some fields plowed up and sown to flax. All grain, except on high lands, looks badly.

IOWA.—*Dallas*: Acreage of wheat unusually large; many fields lately rusted. *Page*: Acreage of spring-wheat fully three times as great as last year. *Plymouth*: Looks well on fall plowing; on spring plowing there is a yellow crust, not promising a good yield. *Muscatine*: Somewhat winter-killed. *Madison*: A few fields badly scabbed. *Lee*: More spring-wheat sown than for many years; good prospects. *Des Moines*: Spring-wheat badly lodged. *Cherokee*: Somewhat injured by grasshoppers. *Shelby*: Spring-wheat straw very heavy; much lying down. *Decatur*: But half the wheat necessary for home consumption grown in the county for the past twenty years. *Wayne*: Better than for five years. *Harrison*: Spring-wheat promising. *Guthrie*: Grew so rank on strong lands that much of it fell down; fine prospects now. *Calhoun*: Looks well. *Crawford*: Looks better than ever before.

MISSOURI.—*Dallas*: Chinch-bugs doing mischief. *Wright*: Suffered from fly and chinch-bug as well as from spring cold. *Benton*: Chinch-bug destroyed 15 per cent.; early-sown wheat much the best. *Barry*: Considerable scab; chinch-bugs did some damage; some ripened unevenly; Tappahannock and Fultz badly frozen, but ripened and filled well; Touzelle almost all winter-killed and fails to fill. *Vernon*: Early-sown a good crop; late-sown taken by chinch-bugs while in bloom or milk; the latter will not average over 3 bushels per acre. *Sullivan*: Nearly average; grain will be extra if fair weather continues. *Phelps*: Injured by chinch-bugs. *Ozark*: Quality, average; quantity, 5 per cent. below. Fultz wheat superior to Flint, both in quality and quantity. *McDonald*: Wheat sent by the Department gives general satisfaction. *Jefferson*: Much over average. *Howard*: Fine; Tappahannock rather more injured by frost than other varieties. *Clay*: Winter-wheat came out splendidly. *Cedar*: Drilled wheat generally good; broadcast inferior; some crops injured by chinch-bug, which appeared a week before harvest, and hence some fields were cut prematurely. *Worth*: Prospects fine. *Saint François*: Seriously injured by chinch-bug. *Reynolds*: Thinned by fall drought, but heads look fine. *Pulaski*: Promises a large increase; chinch-bug has injured it in some places. *Nodaway*: Spring-wheat lodged by late storms of wind and rain. *Moniteau*: Prospect fine on timber-land; largely winter-killed on prairies. *Lincoln*: Grain fine and yield large; estimated at 30 to 35 bushels. *Lawrence*: Damaged by chinch-bugs; spring-wheat from the Department looks fine. *Holt*: Wheat average, but an average is poor. *De Kalb*: Wheat very fine. *Bollinger*: Injured by chinch-bugs. *Bates*: Would have been far above average but for chinch-bugs. *Adair*: Fultz and Tappahannock all froze out. *Saint Genevieve*: Early-sown winter-wheat extra in quantity and quality; chinch-bug badly injuring the late sown and late maturing crops. *Crawford*: Injured by chinch-bugs; came a little later than last year, catching only the later fields. *Colo*: Fair yield; heads large and well filled; berries large and even; on good farms the average will be from 15 to 20 bushels per acre. *Christian*: Thin. *Barton*: Promising up to June 25, when the chinch-bug appeared and did great injury; much wheat cut green to evade the bugs. *Jackson*: The winter-wheat undoubtedly the best and heaviest grown in the county for thirty years. *Caldwell*: Not thick, but heads large and well filled. *Chariton*: Heavy crop in prospect. *Cass*: Crop extra. *Henry*: Materially injured by chinch-bugs; some crops harvested very green to escape the bug. *Platte*: Injured by wet.

KANSAS.—*Smith*: Winter-wheat an entire failure; it spread over the ground instead of running up into stalks; it may live over another winter and make good wheat next year, as it did not sprout till spring. The wheat that got started in the fall was all winter-killed. The Provence spring-wheat from the Department grew well till June 10, when it fell down and died. On examination it was found full of small insects near the roots. *Cowley*: Prospects good; some chinch-bugs in spring-wheat. The Provence spring-wheat not so early as our other varieties; Fultz fine and large headed. *Shawnee*: Better than last year. *Sedgwick*: Storms have prostrated small grain; no rust yet. *Riley*: Winter-wheat thin; weedy and winter-killed. *Howard*: Spring-wheat troubled with



chinch-bugs. *Jefferson* : Satisfying prospects. *Nelson* : Many fields ruined by chinch-bugs ; some plowed under. *Washington* : Winter grain better than was anticipated ; very excellent ; no rust. Spring-wheat promises an increased yield. *Sumner* : Excellent. *Neosho* : Looked well till the chinch-bug came, a few days before harvest ; some pieces entirely destroyed. *Labette* : Chinch-bugs have destroyed one-fifth of the crop ; two-fifths injured from 25 to 75 per cent. ; the remaining two-fifths, including all the early-sown, escaped. This is the third visitation of these bugs. Best way to evade them is to sow early and use early-maturing varieties. Then cut the wheat with headers, plow a furrow round the field and fire the straw, burning it clean. Raise no grain on contiguous ground for a season or two. *Linn* : Excellent ; seldom better. *Dickinson* : Very promising. *Cherokee* : Injured by late rains and chinch-bugs. *Bourbon* : Many fields destroyed by chinch-bugs ; Fultz wheat has escaped and is plump and fair. *Woodson* : Much injured on bottom-lands ; spring-wheat injured by chinch-bugs and rose-bugs. *Morris* : Promises a fine yield of superior quality. *Davis* : Spring-wheat on bottom-lands badly damaged by wind and rain ; winter-wheat on uplands generally good. *Coffey* : Mostly harvested in fine condition ; quality good. *Leavenworth* : Good. *Douglas* : Never better ; mostly secured. *Montgomery* : Somewhat injured by chinch-bugs, especially spring-wheat. *McPherson* : Fall-wheat greatly improved in two months.

NEBRASKA.—*Burt* : Promising on table-lands ; poor on bottoms. *Jefferson* : Winter-wheat almost a failure ; many farmers have sowed their last crop. Spring-wheat extra good, with an increased acreage. *Cass* : Heavy straw ; scab or blight appearing. *Richardson* : Looked finely till injured by late rains. *Nemaha* : Winter-wheat badly winter-killed. *Boone* : Suffering from drought. *Merrick* : A full crop. *Hall* : Small grain much damaged on lowlands.

CALIFORNIA.—*Klamath* : Injured by excessive rains. *Humboldt* : Extra. *San Bernardino* : Lacks rain. *Mendocino* : The only spring-wheat raised is from neglected sowings of isolated pieces which the farmers have postponed till spring ; these sowings are, this year, very short. *Placer* : Crop harvests much better than was expected ; full average. *Santa Clara* : Most of the late-sown grain a failure ; quality good ; crop will be about two-thirds average. *Stanislaus* : Wheat yield greatly overestimated ; dry weather prevented the grain from filling well. *San Luis Obispo* : Injured by drought and grasshoppers. *Sacramento* : Shortened by drought. *Del Norte* : Spring grain greatly improved by heavy showers since June 15. *Butte* : Grain more or less shrunk. *Amador* : Want of rain. *Sonoma* : No fears of a short crop ; grain excellent, full and plump. *Fresno* : Greatly benefited by cool weather in June ; will average 15 bushels per acre. *Monterey* : Will be superior to last year's crop. *Contra Costa* : Cool weather prevented rust and smut.

OREGON.—*Polk* : Grain crops fine. *Columbia* : Exceedingly fine. *Multnomah* : Season favorable to grain.

DAKOTA.—*Bonhomme* : Promise of a splendid crop. *Hanson* : Looks well. *Yankton* : Would have been in advance of last year but for a severe hail-storm June 14, in the eastern part of the county.

MONTANA.—*Deer Lodge* : Grain crops two weeks late. *Lewis and Clarke* : Harvest late.

COLORADO.—*Larimer* : Greatly damaged by grasshoppers.

NEW MEXICO.—*Santa Fé* : Grain started by late rains.

UTAH.—*Kane* : Promises a yield above average.

ARIZONA.—*Maricopa* : Acreage increased ; promise below last year.

WASHINGTON.—*Thurston* : An abundant harvest in prospect. *King* : Weather unfavorable to grain crops.

## CORN.

*Area compared with last year.*—The only States in which the acreage is reported the same as last year are West Virginia and Minnesota. Florida and Arkansas return an increase of 5 per cent. ; Alabama, 2 ; Mississippi, Iowa, and Missouri, 1 ; Louisiana, 7 ; Texas, 8 ; Wisconsin, 3 ; Kansas, 15 ; Nebraska, 11 ; Maine, Michigan, and Oregon, a decrease of 2 per cent. ; New Hampshire, New York, New Jersey, Delaware, and Indiana, 5 ; Vermont and Ohio, 6 ; Massachusetts, South Carolina, and California, 8 ; Rhode Island and Illinois, 12 ; Connecticut, Virginia, and Tennessee, 1 ; Pennsylvania and North Carolina, 4 ; Maryland, Georgia, and Kentucky, 3. In 1,124 county-returns the acreage in 449 is the same as last year ; 307 indicate an increase ; and 413 a decrease.

The low price of corn in the Northwestern States, the backward, wet,



frosty spring, and the extraordinary amount of rain in all except the New England and Middle States during the planting season, are among the causes which have checked an increase, and to some extent occasioned a decrease in acreage. It will be seen that in all the Gulf States there is an increase. This result, due mainly to a healthy tendency in the cotton States toward producing their own supplies, has, perhaps, been perceptibly increased by the amount of cotton-fields plowed up and planted in corn. The largest absolute falling off, by far, is in the great corn-growing State of Illinois, in which there is also a still larger falling off, 15 per cent., in condition.

*Condition.*—Owing to the peculiarities of the spring weather the planting of corn was almost universally late. Throughout the Northern, Middle, and Northwestern States the seed, to an unheard-of extent, failed to germinate. This is generally accounted for on the supposition that the seed-corn, not being sufficiently dried in the autumn, was injured by the extraordinary freezing of last winter. This failure, together with the extensively prevailing wet, cold weather during the season of its germination, and the consequent depredations of worms, has occasioned an unprecedented amount of replanting, often the second, and in not a few cases the third, and even the fourth time. In the New England and Middle States, also in Ohio, Michigan, and sections of adjacent States, and in California, an early drought checked its growth, while South and West protracted wet weather has greatly hindered cultivation, and multiplied weeds and grass. These causes combined left the crop, July 1, generally quite backward and in an unfavorable condition. But as the stand is nearly, if not quite, average, as the too dry weather at the North and the too wet at the South and West has already changed for the better, and as July and August are the months in which corn is made, (except in the cotton States,) there is yet a chance for great improvement and a much larger crop than the condition at the date of reporting seemed to indicate. At that date, only three States—Georgia, 103; Florida, 106; and Arkansas, 101—came up to average in condition. Maine and Connecticut were below, 13 per cent.; New Hampshire, North Carolina, and Kentucky, 8; Vermont and New York, 24; Massachusetts, 9; Rhode Island, New Jersey, Delaware, and California, 12; Pennsylvania, 20; Maryland and South Carolina, 16; Virginia, Mississippi, West Virginia, and Wisconsin, 4; Alabama and Kentucky, 7; Louisiana and Illinois, 15; Texas, Michigan, Indiana, Minnesota, and Nebraska, 10; Tennessee, 1; Ohio, 14; Iowa, 11; Missouri, 2; Oregon, 3. By counties, 271 return average condition, 220 above, and 680 below.

“Cut-worms” have been quite generally troublesome, and especially so in Maryland; grasshoppers, which destroyed much of the first planting in Texas, but left in season for a second planting, are injuring the crop in some sections of California, and chinch-bugs are threatening extensive injury to it in Missouri and Kansas.

The facts of acreage and condition may be learned more in detail from the following table and from the subjoined extracts from correspondents:

| States.             | Acreage.                          |  |   |   | Condition.     |          |                |
|---------------------|-----------------------------------|--|---|---|----------------|----------|----------------|
|                     | Number of coun-<br>ties reported. | Number of coun-<br>ties greater than<br>last year. | Number of coun-<br>ties the same as<br>last year. | Number of coun-<br>ties less than<br>last year. | Above average. | Average. | Below average. |
| Maine.....          | 9                                 | 3  | 3   | 3   | .....          | 2        | 7              |
| New Hampshire.....  | 8                                 | .....  | 5   | 3   | .....          | 3        | 5              |
| Vermont.....        | 10                                | .....  | 5   | 5   | .....          | .....    | 10             |
| Massachusetts.....  | 8                                 | .....  | 3   | 5   | .....          | 3        | 4              |
| Rhode Island.....   | 3                                 | .....  | 1   | 2   | .....          | 1        | 2              |
| Connecticut.....    | 6                                 | .....  | 3   | 2   | .....          | 1        | 5              |
| New York.....       | 42                                | 4  | 26  | 12  | .....          | 5        | 37             |
| New Jersey.....     | 13                                | .....  | 10  | 3   | .....          | 5        | 8              |
| Pennsylvania.....   | 47                                | 6  | 25  | 16  | .....          | 5        | 41             |
| Delaware.....       | 3                                 | .....  | 1   | 2   | .....          | 1        | 1              |
| Maryland.....       | 15                                | 2  | 8   | 5   | .....          | 1        | 14             |
| Virginia.....       | 73                                | 16   | 41  | 16  | 20             | 20       | 33             |
| North Carolina..... | 58                                | 7  | 29  | 22  | 9              | 14       | 35             |
| South Carolina..... | 16                                | 2  | 6   | 8   | 2              | 3        | 13             |
| Georgia.....        | 16                                | 13   | 22  | 26  | 33             | 11       | 17             |
| Florida.....        | 13                                | 7  | 5   | 1   | 10             | 1        | 2              |
| Alabama.....        | 36                                | 14   | 10  | 12  | 7              | 12       | 18             |
| Mississippi.....    | 30                                | 9  | 11  | 10  | 8              | 9        | 12             |
| Louisiana.....      | 21                                | 7  | 12  | 2   | 5              | 6        | 12             |
| Texas.....          | 57                                | 35   | 12  | 10  | 13             | 11       | 32             |
| Arkansas.....       | 30                                | 16   | 13  | 1   | 13             | 5        | 12             |
| Tennessee.....      | 56                                | 13   | 24  | 19  | 16             | 15       | 25             |
| West Virginia.....  | 29                                | 11   | 9   | 9   | 8              | 9        | 12             |
| Kentucky.....       | 43                                | 10   | 18  | 15  | 11             | 10       | 22             |
| Ohio.....           | 57                                | 10   | 19  | 28  | 3              | 11       | 43             |
| Michigan.....       | 36                                | 11   | 13  | 12  | 6              | 6        | 24             |
| Indiana.....        | 53                                | 8  | 17  | 28  | 4              | 10       | 39             |
| Illinois.....       | 66                                | 3  | 15  | 48  | 5              | 10       | 50             |
| Wisconsin.....      | 32                                | 11   | 10  | 11  | 9              | 8        | 15             |
| Minnesota.....      | 35                                | 11   | 13  | 11  | 3              | 15       | 17             |
| Iowa.....           | 50                                | 14   | 14  | 22  | 4              | 13       | 33             |
| Missouri.....       | 66                                | 32   | 21  | 13  | 18             | 18       | 30             |
| Kansas.....         | 39                                | 18   | 6   | 15  | 3              | 14       | 22             |
| Nebraska.....       | 17                                | 6  | 6   | 5   | 3              | 3        | 11             |
| California.....     | 19                                | 3  | 8   | 8   | 1              | 6        | 12             |
| Oregon.....         | 12                                | 4  | 5   | 3   | 3              | 4        | 5              |
| Total.....          | 1,124                             | 307  | 449   | 413   | 220            | 271      | 680            |

MAINE.—*Androscoggin*: Looks fine though small. *Oxford*: Germinated poorly; much replanted.

NEW HAMPSHIRE.—*Carroll*: Small for the season, but the warm days of late make it look more healthy.

VERMONT.—*Windham*: Has suffered much from drought. Much corn has not come up. *Rutland*: Suffering from a severe drought; but very little rain has fallen since the snow went off.

MASSACHUSETTS.—*Norfolk*: The acreage of corn is about average, but the condition is affected by the dry weather. Large patches have failed to vegetate for the want of moisture. *Dukes*: Not yet seriously affected by the severe drought.

NEW YORK.—*Oneida*: Suffering from drought. *Niagara*: The cut-worm has made terrible work with corn. *Rensselaer*: The crop the shortest for the season that I have ever known, not excepting the cold season of 1816. *Saratoga*: Protracted drought seriously affecting all crops; corn planted early is looking quite well, but late-planted did not come up evenly. *Chenango*: It has been so dry that much of the corn planted did not come up. *Chautauqua*: Badly eaten by grub-worms. *Orange*: In consequence of the drought, commencing in the latter part of May and continuing through June, late corn did not start well. *Wyoming*: Did not come up well; the cut-worm has worked more than usual. Many fields have been plowed up and sown to western corn for fodder. *Kings*: Looks about the same as last year. *Livingston*: Came up badly, and then the cut-worm began to work at it. *Jefferson*: Was not much affected by the drought, and looks well. *Onondaga*: A terrible drought has injured our crops; hundreds of acres of corn have been plowed up and sown to corn and buckwheat. *Sullivan*: A severe drought is shortening the crop. *Suffolk*: Suffering from drought. *Allegany*: That planted in May failed to come up.

NEW JERSEY.—*Burlington*: The drought has made corn more backward than usual,

but it looks well and is clean. *Morris*: The drought has injured crops; corn short and backward.

PENNSYLVANIA.—*Northampton*: Put in three weeks later than usual; prospect poor. *Montgomery*: Indications of a large crop. *Snyder*: The crop will be short in consequence of the trouble of getting good seed; much of the first planting did not come up. *Union*: Very backward on account of dry weather. *Lebanon*: Very backward. *Cambria*: Owing to the late cold spring the planting was delayed, and when planted much of the seed rotted, which necessitated replanting. This with a few weeks of dry weather has kept the crop back very much. However, it is now making wonderful progress under the influence of warm suns and genial showers. *Butler*: Three weeks behind. *York*: Looks fresh and promising; season dry. *Westmoreland*: The dry weather during the past month has greatly injured the corn. *Lancaster*: Looks very irregular on account of late or irregular planting, but is growing more than any other crop. *Clearfield*: Came up very poorly; the vitality of the seed supposed to have been injured by the extreme cold of last winter. Replanting once, and sometimes twice, was very common. *Bucks*: Came up uneven, but is doing well. *Armstrong*: Did not come up generally; second planting also failed for want of rain. The seed is blamed, but the same seed grew in some fields and not in others. *Washington*: Very backward. *Lycoming*: Very backward and in many places quite thin on the ground, owing to the cold spring and to the seed being injured by the cold last fall before the cob was free of sap. *Lehigh*: Planted late on account of the wet season, and so much of the seed did not sprout that many farmers were obliged to replant, which was continued up to July. *Huntington*: In bad condition owing to the seed not growing. *Fayette*: Very backward, owing to the late cold spring; much of the seed did not germinate and the cut-worm injured many sod-fields, rendering replanting necessary. The grub-worm is also doing some damage. *Erie*: A great failure of seed; one-half the ground had to be planted over again. *Centre*: Probably but about half a crop, owing to the use of poor seed. The seed seems not to have been sufficiently dried before cold weather. *Beaver*: Short on account of late planting, but growing very well. *Cameron*: The season cold, dry, and about one month late, which accounts for the decreased average of corn. It is in a healthy condition though small. *Lawrence*: As a general thing had to be replanted, on account of the seed not germinating, and is very short; will not be more than half a crop. *Indiana*: Will be light. The seed all proved to be in a bad condition and had to be replanted two or three times, and yet stands on the ground short.

DELAWARE.—*New Castle*: Not rain sufficient to wet the ground since May 20; crops suffering.

MARYLAND.—*Washington*: Has had a bad enemy in the cut-worms, and the dry weather has kept it back, but late rains are improving it. *Baltimore*: Before planting finished, cut-worms were more troublesome than ever known before. The stand is much below average. *Kent*: The grub-worm has injured the corn. *Howard*: Very little corn-ground plowed last fall owing to the early winter. Hence less acreage and to a large extent the cut-worm, which has been very destructive, necessitating in some cases complete and repeated replanting. *Saint Mary's*: On some land badly killed out by worms after being planted the second time. *Charles*: The average condition is lower in consequence of the cut-worms; many fields having been planted four times. *Caroline*: Has made a good growth considering that we have had no rain for a month. *Queen Anne*: Bad stands; much of that now standing having been replanted late; not more than half as high as last year.

VIRGINIA.—*Spottsylvania*: Not so tall as usual, owing to the cool spring, but very healthy. *Pulaski*: Small, being planted late, but looks thrifty. *Bedford*: The planting retarded, and the corn much injured after planting by heavy and continued rains. *Stafford*: Condition better than last year. *King and Queen*: The heavy rains and cold weather during the month of May caused much of the corn to rot, making it necessary to replant it. This makes it late and small. *Fluvanna*: Promising, though small. *Wythe*: Looks well for the time it was planted—three weeks later than usual. *Warren*: Much trouble by the worm. *Powhatan*: Good. *King George*: Very promising. *Caroline*: Season propitious for corn. *Prince Edward*: Planted later than usual; otherwise, a full average. *Orange*: Never more promising at this season. *Washington*: Healthy, though late. *Chesterfield*: That planted early badly drowned; but now all planted and worked, looking very promising. *Clark*: The cut-worm has injured the corn more than ever known before; consequently, the crop is very backward and small. *Middlesex*: Suffering from extremely dry weather. *Greenville*: Never appeared better at this season. *Bath*: Very late, and very much troubled with the grub-worm. *Fauquier*: Promises a full crop. *Madison*: Looking well. *Mecklenburgh*: Looking badly, on account of the cold, wet spring. *James City*: Planted late, and therefore quite low for the season; but the drought having enabled farmers to work in it almost every day, it is in beautiful order. *Campbell*: Late; otherwise, equal to that of last year. *Prince George*: Late; though small it looks healthy. *Henrico*: Prospect fine for a large yield. *Highland*: Much retarded by late planting, caused by much rain; doing



well now. *Essex*: Bad stand, in consequence of unprecedented ravages of the cut-worm.

**NORTH CAROLINA.**—*New Hanover*: Entirely killed out by heavy frost in April; second planting much retarded by wet weather and scarcity of labor. *Chowan*: Neglected, to save the (too much) cotton, and the result will be short crops of both corn and cotton. *Sampson*: Small, but green and good-looking on uplands; very small on lowlands. *Mecklenburgh*: Small and badly worked, in consequence of heavy rains in May. *Cumberland*: At least twenty days behind average season. *Camden*: While the acreage of cotton has been increased to a large extent, corn has not been neglected. Our farmers will raise their own supplies, and not have a crop to sell and nothing to eat. *Anson*: On uplands, doing remarkably well, and that on lowlands recovering rapidly since the excessively wet weather has passed away. *Alamance*: Did not get a good stand at first, owing to frost and cut-worm; now doing well. *Beaufort*: A little below an average. *Cherokee*: Promising very well. *Moore*: Late; with favorable season from this time, will be an average crop. *Person*: Suffering from drought. *Polk*: Generally in the weeds and grass. *Caldwell*: Seriously injured by the wet weather and consequent want of work. Many farms are almost entirely ruined by the most destructive freshet in the Yadkin River that has occurred since the county was first settled. *Madison*: A great deal of wet weather, and the crop not being cultivated as well as it should be. *Ashe*: A great deal of rain, and our corn prospect bad.

**SOUTH CAROLINA.**—*Clarendon*: Prospect not so good as last year. *Chester*: First planting injured by frost, April 24; the second planting on bottom-lands nearly destroyed by freshet, June 14. *York*: Has suffered from cold and wet weather, as the principal crop is cultivated on lowlands where most affected by these causes. *Newberry*: The lowlands have been planted and replanted and are deficient in stands. The continued wet weather has in many instances destroyed the crop. *Lexington*: Early corn all cut down by the severe frost on the 26th of April. A month later, in a portion of the county, torn to shreds by a terrible hail-storm. *Greenville*: Looks well, but has not been properly worked; in many cases the weeds and grass are as high as the corn. *Marlborough*: Unusually fine where it has been worked. *Richland*: Prospect very good; many farmers, however, on the rich river-lands have not been able to plant a full crop on account of the excessive rains. *Chesterfield*: Prospect worse than I have ever known it. *Williamsburgh*: Where not neglected to save the cotton, is about average. *Orangeburgh*: Has failed.

**GEORGIA.**—*Upson*: Fine. *Clinch*: The heavy rain during June has cut off the corn-crop fully one-third. *Hart*: Crop generally good. *Liberty*: Crop injured by rain and grass. *Douglas*: Doing well on upland. *Muscogee*: Below an average; too much rain during June. *Effingham*: Very poor. *Wilkes*: Precarious; the past month very rainy and corn very full of sap. Hot dry weather would now ruin the crop. *Sumter*: Prospect better than for ten years. *Dooly*: Not looking well, owing to too much rain. *Baldwin*: Much of the month of June the soil was too wet for plowing, and the grass has obtained the mastery in many of the plantations. *McIntosh*: Much injured first by the long drought, and since by the heavy rains. *Gwinnett*: Excessive rains during May and June have prevented the crops from being well worked; corn on uplands promises well; on creek and river lands it is poor. *Clayton*: Has suffered on bottom-lands in consequence of the rains. *Putnam*: Looks well. *Spaulding*: Daily rains since the 1st of June; corn on bottom-land badly injured; upland, fine. *Twiggs*: Looking finely. *Lawrens*: Never better. *Whitfield*: Never more promising. *Franklin*: Never looked better. *Carroll*: On bottom-land almost a failure—drowned out. Yellow field-corn doing well, and will make a good crop; proved to be very early. *Cobb*: Doing well on upland. *Fayette*: It rained six days out of seven in June, and consequently corn on bottom-land is destroyed. *Wilkinson*: Fine as could be asked for.

**FLORIDA.**—*Madison*: Acreage 25 per cent. greater than last year; farmers satisfied with the crop. The Pennsylvania yellow corn is very highly esteemed as an early corn. *Orange*: Much above the average in appearance. *Jackson*: Crop was never better. *Hamilton*: Crop continues good; more corn will be made this year than usual. *Clay*: The wet weather is injuring the crop very much. *Leon*: Best crop I have ever seen in the county. *Columbia*: Best crop for several years. *Lery*: More corn made in this part of the State than for three years past altogether.

**ALABAMA.**—*Jackson*: Growing rapidly, but very weedy. *Blount*: Very promising. *Hale*: Rain has been falling in torrents for the last six weeks, so that the crop is very grassy. *Macon*: The heavy rains have prevented it from being worked, and much of the crop will have to be turned out. *Green*: On low places very much damaged by too much rain. Labor not sufficient for the crops in their present condition. *Crenshaw*: The yellow corn from the Department grows well in this climate, and the white corn does very well. *Clarke*: On the uplands where it has been well worked, fine; a great deal of the lowlands too wet and overrun with weeds and grass. *Montgomery*: Good, except on low swamp-land; too much rain in June for that. *Chambers*: Prospect more flattering than for many years. *Dallas*: Injured beyond remedy by continuous rain since the 1st of June. *Geneva*: Crop never better. *Lauderdale*: Badly damaged

in stands by cut-worm. It has been a hard struggle to keep the grass out (from incessant rains) and many acres are thrown out. Late, but now growing well. *Concehuh*: Looking well. *Calhoun*: Rather grassy, owing to the great amount of rain. *Marengo*: The continued rains have seriously injured corn; now too late for it to recover even with good weather. *Morgan*: On the highlands, never better. *Randolph*: Where it has been worked is splendid. *Perry*: Greatly injured by excess of rains. *Bullock*: The rain has been excessively injurious to corn. *Marshall*: Cut-worms so destructive that many fields had to be plowed up and replanted once, twice, and even three times before a stand could be obtained. Prospect now fine. *Pike*: Continuous rains since early in May; all lowland corn is entirely lost; the upland very much injured by grass and weeds. *Limestone*: Crop about lost in weeds and grass; on many plantations it has not yet been plowed. *Tuscaloosa*: On uplands very good; on lowlands drowned out. *Wilcox*: Could not be worked sufficiently to make it ear.

MISSISSIPPI.—*Warren*: Unusually promising. *Pike*: Generally in good condition. *Newton*: Better than for many years; with favorable season, we look for extraordinary yield. *Amite*: Above average, both in acreage and condition. *Jasper*: In consequence of rain almost every day since May 1, the grass and weeds have outgrown the crop. *Marion*: Not more than three days have elapsed for the last six weeks without rain. The crop has suffered immensely. *Grenada*: Quite promising. *La Fayette*: Would be very fine but for the effects of continued rains. *Yazoo*: Having all the time too much rain for corn. *Winston*: The corn in bottoms is drowned out and will make little of anything. *Tishomingo*: In the grass; will be good. *Tunica*: Heavy rains throughout June have damaged the corn prospect. *Yalabusha*: Prospect not encouraging; very grassy. *Kemper*: In the light, rolling lands, good, but in the best lands, that always make the heavy crop, very much injured by the wet weather and consequent want of work. *Panola*: Has rained almost every day for the last seven weeks; this, with increased acreage, has got the crops so in the grass that they never can be cleaned in time. *Lowndes*: Lowlands drowned out, and highlands very much injured; impossible to make more than half a crop. *Neshoba*: Looking bad, owing to the excessive rains. *Norubee*: Much below last year. Lowlands cannot make one-third of a crop, owing to excessive rains, which still continue; uplands about an average. *Wilkinson*: Daily rains since May 12 have very seriously damaged corn; the boll-worm is damaging the corn now curing. *Madison*: Had twenty days of rain in June, making it impossible to work crops. Grass had complete control, and some of the corn-crop has been abandoned. *Jefferson*: Stalk large and fine-looking, but ears small with undue proportion of shuck. *Pennsylvania* yellow corn from the Department of Agriculture very fine—ears large.

LOUISIANA.—*East Baton Rouge*: Should the almost incessant rains since the beginning of May now cease, and labor be obtainable to meet the extra demand for work, perhaps half a crop of corn might be realized. *Avoyelles*: The low condition owing to rains nearly every day for six weeks. *La Fourche*: In fine condition the latter part of April; in the first week of May it commenced raining and continued for forty-six days—each rain a flood. The early corn very much injured, and a large part of that planted in April a total loss by reason of the rain or for want of work. *East Feliciana*: Better than the cotton. *Claiborne*: In danger of an overwhelming grass assault. *Franklin*: Early corn very good; late, promising. *Morehouse*: In excellent condition. *Red River*: Looking remarkably fine. *Tensas*: Better than at any time since I began to report. *Saint Mary*: Very much injured by constant rains in May and the first part of June. *Rapides*: After a cold and backward spring, heavy rains set in on the 1st of May and continued until the 20th of June, which entirely ruined all the last plantings of corn; the best is not more than half an average in condition.

TEXAS.—*Caldwell*: The great decrease in condition is owing to the excessive rain-fall for the last three weeks. *Polk*: Have had six weeks of rain. Planters have been unable to work their corn in time; there can be but little corn out. *Milan*: Crop supposed to be safe. *Dallas*: Very much damaged with an excess of water, and a rank growth of grass and weeds. *Tarrant*: Promises an abundant yield. *Navarro*: The uplands will produce a very large yield, while the lowlands will make about a half crop, which will make the crop a good average. *Kendall*: Extensive corn-planting after the disappearance of the grasshoppers and late frost, and the crop, though late, promises well, provided the rain, which has been almost incessant for five weeks past, ceases so as to permit the farmers to commence weeding operations. *Collin*: It was impossible to work corn properly in consequence of continued rains from the 20th of May to the 20th of June. *Red River*: March and April were delightful months, and heavy crops were planted in good condition. On the 5th of May it commenced raining, and up to June 20 there were but a very few days without rain. There will be some corn made on elevated spots, but on other land it is completely drowned. \**Bexar*: Damaged to some extent by too much rain. *Comal*: Killed by late frost; farmers had to replant; excessive rains for the last four weeks. *Kaufman*: Acreage increased 75 per cent. over last year, but owing to the wet season the condition is 5 per cent. below. *Coryell*: Though the frost cut our corn down twice, the fine rains that set in the first



of May will cause us to make nearly a full crop. *Austin*: The fields all overrun with grass and weeds, and much of the corn-crop drowned. *Lampasas*: More rain during the last two months than for the last thirty years in Texas; corn-crop much in the weeds. *Grimes*: The very late and cold spring put corn behind, and June has been a month of rain; consequently crops much in the grass. *San Saba*: The grasshoppers were here in such quantities that we were prevented from planting corn till about the 1st of May. Consequently the crop is about six weeks behind; prospect favorable if the rains continue. *Gonzales*: Early corn was killed by frost April 9, and a succeeding drought injured the young crop, which abundant rains have since remedied. *Henderson*: Will have to be very favorable if we make half a crop of corn. *Medina*: The first planted entirely destroyed by grasshoppers; replanted after their departure, and now promises nearly an average crop. *Matagorda*: Injured by too much rain. *Montgomery*: So overrun with grass and weeds that it is now considered impossible to reclaim it to an average. *Colorado*: Doing pretty well. *DeWitt*: Very promising; acreage 25 per cent. greater than last year. *Ellis*: Much of the corn has been drowned out. *Fayette*: Good and nearly made. *Karnes*: Fine rains through June give us good crops of corn. *Washington*: Has suffered seriously from excessive rains. *Anderson*: Very favorable for corn. *Bandera*: From the third or last planting, after the grasshoppers disappeared, a tolerably good stand was secured. Excessive rains from May 25 to June 24 prevented tillage and seriously injured much corn in the valleys. *Atascosa*: The third planting has succeeded so well as to justify anticipations of an extraordinary crop. *Eusk*: Very promising on the highland; on the lowland will not entirely recover from the excessively wet weather. *Burnet*: Growing rapidly. *Marion*: Promises an abundant yield. *Leon*: Good, except in lowlands.

ARKANSAS.—*Hempstead*: Have had almost incessant rain for six weeks. Corn, which should have had its third working, has not yet been worked out the first time; much of it is now beginning to tassel, standing in weeds that came up with it, and not over five feet high. *Independence*: Never better. *Arkansas*: Never looked better. *Craighead*: Crops all doing well. *Monroe*: About two weeks later than usual. *Union*: In splendid condition, where it has been worked. *Woodruff*: Needing rain. *Cross*: Considerably damaged by too much rain. *Columbia*: Not doing well on wet lands owing to continued rains. *Yell*: Would have looked better if it could have been better worked. *Sebastian*: Looks well.

TENNESSEE.—*Washington*: Looking very well, particularly on old uplands. Cut-worms were very destructive to this crop in clover-lands. *Loudon*: More rain this June than in any previous one for years; so much that the farmers have not worked their crops as they should. Some lands so wet that they have been abandoned. *Stewart*: A considerable portion of corn-land has been so wet that it could not be planted. *Maury*: Has suffered for the want of plowing, and is now grassy. *Newbern*: Has suffered very much in consequence of the continued wet weather. *Carter*: Looks well, but too much rain. *Hawkins*: Rain has fallen so incessantly during June that the corn crop, though growing rapidly, is generally very foul with weeds and grass. *Giles*: Has a fine color, notwithstanding the unprecedented rains. *Jackson*: In grass and weeds on account of so much rain. *Montgomery*: Head and ears in the grass and no chance yet to clean it. *Obion*: One hundred per cent. more rain than last spring and summer; in some places corn is lost. Farmers have planted the same field three times. Grass and weeds are now taking the whole country. *Smith*: Left in bad condition by excessive rains. *Bradley*: Most promising. *Roane*: Have never seen a more promising crop where it has been properly worked. Those who have overcropped themselves are considerably in the weeds and grass. *Trousdale*: Generally late. May and June very wet. *Macon*: Will not make over half a crop, owing to the very wet season. *Sevier*: Never saw so fine a crop in this county before. *Dickinson*: Where it has been possible to work it looks well, but we have had heavy rains almost every day during the last month. *Humphrey*: Tall, spindling, full of sap, and very foul, owing to the continued rains. *Monroe*: Continued rains have retarded the crop, though it grows finely in the weeds. *Putnam*: Remarkably wet; corn foul, but looking well. *Wilson*: Looking remarkably well. *Weakley*: Very low. *Davidson*: Will be cut short from grass and want of tillage at least one-third. *Morgan*: Incessant rain during June has seriously injured the corn. *Fentress*: Backward; weeds away ahead. *Haywood*: Owing to excessive rains in June the crop became smothered with grass and weeds. *Robertson*: Excessive rains from May 25 to July 1 prevented plowing, and the crop is in a very bad condition.

WEST VIRGINIA.—*Jefferson*: A genial rain a week ago, followed by a warm sun, is rapidly improving the corn; worms and dry weather had retarded it. *Morgan*: Rather bad start from cut-worms; will probably come out in July, as we have had frequent showers lately. *Monroe*: A fair average. *Pocahontas*: Wet weather and late planting will diminish the crop. *Cabell*: Growing finely. *Hardy*: Prospect quite favorable, but not up to an average. *Harrison*: Not very forward, but looks well. *Mercer*: Short. The grub-worm has been destructive to some fields. *Pleasants*: Very backward; light showers; now doing much good. *Braxton*: Late planted; now looking well. *Pen-*

*deleton* : Although planted late, now very promising. *Raleigh* : Very promising. *Monongalia* : Rains during the past week fine on the corn.

KENTUCKY.—*Shelby* : Three weeks behind. *Adair* : Very weedy ; cannot have a full crop ; too wet to cultivate it. *Jefferson* : Promises well. *Laurel* : Very weedy ; it has been necessary to plow it when the ground was very wet, and it has consequently been injured. *Butler* : So wet that corn cannot be plowed. *Fayette* : Very good. *Anderson* : Looking very fine. *Grayson* : Crop badly damaged, (by excess of rain.) *Lincoln* : Rather better prospect than usual. *Henry* : Promises a heavy yield. *Logan* : Generally looking badly for want of work ; lowlands drowned out and lost because too wet to plow. *Pulaski* : In bad condition on account of excess of rain. *Russell* : Rain nearly every day in June ; corn badly in the grass and weeds ; many have given up portions of their crop. *Clinton* : Doing well, except that wet weather has prevented cleaning out and working it. *Johnson* : Recent heavy rains have injured the crop. *Boyd* : The acreage of corn is lessened owing to the scarcity, or rather the unreliability, of labor.

OHIO.—*Noble* : Drought has kept corn back. *Williams* : Suffering terribly from drought and worms. *Logan* : The late wet spring affected not only the acreage but the progressive condition of the crop. *Miami* : Growing very fast. *Genesee* : Growing finely ; much of it late. *Jackson* : A little late ; average prospect. *Medina* : Is pushing ahead. *Adams* : Rather small, but stands well on the ground, and is very clear of weeds. *Erie* : Did not come up well ; very late. *Franklin* : Late, but doing well now. *Lorain* : Late ; its not germinating well caused second planting. *Marion* : Much has been replanted ; growing rapidly. *Morgan* : Backward. *Pickaway* : Planting late ; many have but just finished ; great trouble to get "stands;" causes, unsound seed, wire-worms, and ants. *Vinton* : Small but good color. *Mercer* : Late spring, bad seed, bad management, and cut-worms a great drawback on the corn crop. *Coshocton* : Doing well. *Crawford* : Late planted, and much replanted on account of bad seed ; prospect fair. *Delaware* : Prospect for more than an average crop. *Geauga* : Much seed-corn failed to come up ; some have had to plant the third time ; late, but growing finely. *Morrown* : In consequence of poor seed, unfavorable weather, &c., many had to replant some the third time, making the stand very uneven. *Ottawa* : Most had to plant their corn over a second time, and many three times. *Washington* : Good stand but late ; growing finely. *Hancock* : Looks well. *Athens* : Backward, but of good color, and generally clean. Our best corn lands—the Hocking Valley through the center of our county—were visited on the first of the month by the most destructive flood ever known here, and all corn, wheat, and grass swept away. The loss immense.

MICHIGAN.—*Wayne* : backward, but thriving now finely. *Branch* : Very uneven and late, owing to poor seed ; doing well now. *Calhoun* : Must be largely short of the usual yield. *Van Buren* : Has suffered from bad seed ; many had to plant twice ; also from the late drought. *Clinton* : Very generally failed to germinate ; was planted two or three times. *Genesee* : Rapidly improving. *Gratiot* : Great complaint of poor seed-corn ; many have planted three or four times. Ravages of cut-worms have been great in some localities ; severe drought for about six weeks ; fine showers the last week in June. *Hillsdale* : Doing well. *Manistee* : Luxuriant. *Mason* : Much had to be replanted, the seed having rotted in the ground ; looks well. *Mecosta* : The seed that was grown last year, except what was cured in the house, failed to grow. The first planting looks exceedingly well, and the second planting is coming on and looks well. *Shawwassee* : Very late, and much injured by extreme drought. *Tascola* : Has been injured to some extent by the cut-worm ; more forward than usual. *Washtenaw* : Did not come up well ; coming forward very rapidly. *Livingston* : Badly injured by the cut-worm ; extreme drought prevailing. *Kent* : The stand very poor, owing to poor seed ; the season favorable. *Lapeer* : A large portion of the seed planted failed to grow, and had to be replanted ; exceedingly dry weather kept it back, but late rains are now pushing it forward. *Montcalm* : Farmers had to plant over two, three, and some four times, on account of the seed being damaged, as was supposed, by the cold of last winter. *Newaygo* : A large amount of corn had to be replanted, owing to bad seed ; yet the condition of the crop appears to be a full average. *Antrim* : Plenty of rain and good warm weather.

INDIANA.—*Scott* : Late planted, but looks well. *Wayne* : Late planted and small, but advancing rapidly. *Huntington* : Cut-worms taking a great deal of the corn. *Ripley* : Severe drought ; late planted corn will not be worth anything. *Crawford* : Later than usual, but good color and thrifty. *Decatur* : Came up badly ; half the crop planted over again ; many have a bad stand ; three weeks late ; rain needed badly. *Orange* : Corn-fields well pulverized and clear of weeds ; rains light and numerous. *Owen* : Cold ; backward spring unfavorable for plowing, planting, and cultivating corn. *Dubois* : Cut down in some places by the army-worm, but prospects good for a large crop. *Bartholomew* : Looks better now than a year ago, but we cannot hope for a better crop than we had in 1872. *Cass* : Backward. *Floyd* : Never was better. *Hamilton* : Small and very weedy. *Harrison* : Late, but stands good and growing finely. *Marshall* : Late planted, and seed not good ; at least three-fourths of



the crop had to be planted the second time. *Martin*: Rain in the spring retarded the planting, and many fields intended for corn were not planted at all. *Newton*: Generally planted late, but looking well. *Pike*: Has improved wonderfully in the last three or four weeks. *Stark*: The crop bids fair to be as good as last year. *Franklin*: The first planting came up badly; the second well, and is doing well. *Howard*: Doing finely since it has got a start. *Knox*: Continuous wet weather; corn suffering for want of attention. *Wells*: Very backward; suffering for the want of rain. *Morgan*: Stands well, but a little short for the time. *Perry*: Late and in bad condition. *Brown*: Late planted; now growing fast. *Boone*: Planted later than usual; grew well in June; now damaged by excessive rains and storms.

**ILLINOIS.**—*Morgan*: Crop will be short. *Bureau*: Very backward and a poor stand, but good color and growing finely. *Sangamon*: Dry weather reduced the average. *Champaign*: Prospect not good for a large crop. *Iroquois*: In poor condition. *Jersey*: Growing fast. *Kankakee*: For the last month the weather has been hot and dry, bringing corn along splendidly. *Livingstone*: Prospect anything but encouraging. *Marion*: Good corn weather. *Pike*: Small, but promises well. *Washington*: Late; cut-worm very bad. *Whiteside*: Doing splendidly. *Carroll*: To a large extent replanted, being brought forward rapidly. *Clinton*: Late. *Crawford*: Looks well considering the late planting. *Cumberland*: Put in late. *De Kalb*: Has come forward surprisingly. *De Witt*: On low ground very far behind; on high ground looking as well as I ever saw it. *Effingham*: One-half planted in June. *Fulton*: Early planted looks well; the great amount of wet prevented planting (of a portion) till the 15th or 20th of June. *Hancock*: Looking well, and generally clear of weeds. *Lake*: Doing well, but so much had to be replanted that a full crop cannot be expected. *Lawrence*: The uncommonly wet season has interfered greatly with the crop; late planted and weedy. *Moultrie*: About one-tenth of the corn land will not be planted, owing to wet; some have just finished planting. *Scott*: Very backward. *Stephenson*: Has been backward, but coming forward remarkably well. *Tazewell*: Planted late, but growing finely. *Warren*: Generally clean and color good. *White*: Owing to the very wet season a large amount of land intended for corn will not be planted; some farmers are still planting, in the hope of a late fall. *Boone*: Very late in planting; not an average stand; now doing well. *Cass*: Planting late; chinch-bugs are damaging the crop. *Edwards*: That planted unusually good, but the low lands have been too wet to plant. *Fayette*: Backward, but growing finely. *Ford*: The prospect now good. *Lee*: All of one month behind; many did not finish planting till June 15; now growing vigorously. *Mason*: With a very late fall the corn crop of this county must be at least one-third short, owing to a cold, backward spring, and continued wet. *Ogle*: Very uneven, as much had to be replanted. *Piatt*: A good portion late, but doing very well. *Franklin*: Replanted late; very small; much of the crop destroyed by the army-worm; the remainder very excellent.

**WISCONSIN.**—*Clark*: June very propitious. *Juneau*: Looking splendid. *Pierce*: Growing very fast. *Portage*: Backward and weedy, but good color and rank. *Richland*: Very weedy, owing to the wet weather. *Walworth*: Recently looking up, as if to make up for lost time. *Dodge*: Looking well. *Milwaukee*: Put into the ground late, but now coming on finely. *Calumet*: The seed in some localities rotted; the replanted prosperous. *Dane*: Prospect better than in any year since 1869. *Dunn*: The decrease in acreage is mainly owing to poor seed, which failed to grow; where the seed was good the crop looks well. *Eau Claire*: Shows a rapid growth. *Green*: Never looked better. *Saint Croix*: Some fields as good as last year at this date, but not generally.

**MINNESOTA.**—*Blue Earth*: Spring late and wet; a great deal of corn plowed up, and the ground sown to flax. *Nicollet*: The continued wet weather has materially affected our corn crop. *Sibley*: Heavy and continuous rains have spoiled 25 per cent. of our corn crop. *Fillmore*: Backward, but looks well. *Kandiyohi*: Growing fast. *Faribault*: The long-continued rains in May and June caused much of the corn planted to rot, and hindered many from planting and replanting the same. *Freeborn*: Has made a very rapid growth. *Ramsey*: Looks very fine.

**IOWA.**—*Woodbury*: Several flooding rains have interfered with the stand and retarded the growth. *Montgomery*: Prospect flattering. *Calhoun*: In low land did not come up well on account of the wet. *Guthrie*: Rather late, but fine weather is bringing it out wonderfully. *Harrison*: The acreage of corn increases rapidly each year as immigrants come in. The season has been so wet and backward that corn is not doing as well as usual. *Polk*: Late in planting; some ground not put in and will lie out this year. *Story*: Spring cold and wet, but now corn growing fast and looks finely. *Decatur*: Clean and in very good condition. *Delaware*: Pushed forward with remarkable rapidity. *Floyd*: June remarkably favorable for corn; the stand good. *Poweshiek*: Very uneven; some looks well, and some not half a stand and full of weeds. *Shelby*: Thirty-three per cent. on bottoms drowned out. *Pattawattamie*: The usual amount not planted on account of wet weather; growing finely. *Cherokee*: Rather backward; the hot weather hastening it along. *Des Moines*: Prospect fair. *Grundy*: The wet season has seriously injured the prospect for corn. *Lee*: Clean and



a good stand. *Menona*: Acreage and condition reduced by the vast amount of rain. *Chickasaw*: Has come on beyond all precedent.

MISSOURI.—*Wayne*: Late. *Cass*: Extra. *Chariton*: Planted late and looks poorly. *Caldwell*: Late planted growing prodigiously. *Jackson*: Wherever it has had proper attention promises well. *Adair*: Prospect never better. *Bates*: Looking better for its age than I ever saw it. *Bollinger*: Growing finely, but some fields foul owing to the wet weather. *Boone*: Except a few localities, very promising. *Harrison*: Excellent prospect. *Jasper*: Chinch-bugs have left the wheat and are moving *en masse* on the corn and oats. *Lincoln*: Very small, but looks well. *Moniteau*: Never promised better. *Pulaski*: Looking very well, but attacked by chinch-bugs. *Ralls*: Young, but looking well. *Reynolds*: If it were not for the rain, which keeps the corn growing very fast, the chinch-bugs would do a great deal of damage. *Worth*: Prospect never better. *Clay*: Planted late; has had a favorable season and promises well. *Howard*: Very backward, but, if seasonable, will make a heavy crop. *Ozark*: Looking very unpromising, but the warm weather and frequent showers of June have given it an excellent start. *Phelps*: The chinch-bugs are going for the corn. *Putnam*: Promise of abundant crop. *Skeby*: Prospect of abundant yield. *Sullivan*: Put in the ground late, but favorable weather has brought it nearly up to a fair average. *Vernon*: The chinch-bugs are now taking the corn; great loss is apprehended. *Pemiscot*: An extraordinarily wet season; corn in the grass much more than other years. *Barry*: The cold weather retarded planting and caused it to come up badly. *Schuyler*: Prospect remarkably good in the regular stand and the cleanness of the ground. *Wright*: Looking well except the early variety.

KANSAS.—*Douglas*: Has a poor stand and is backward. *Leavenworth*: Looks very well. *Butler*: Weather very dry; corn suffering. *Coffey*: A large quantity of land intended for corn will be sown in millet, buckwheat, &c. With fine weather the crop of corn may become as good and large as last year. *Davis*: Good with the exception of being blown down by violent storm. *Woodson*: The high water drowned the crop in the bottom-lands, and the excessively wet weather, in May, kept the farmers out of their fields until the weeds took what the water left. They have just finished replanting. *Cherokee*: Looking well, though backward; in fields adjoining wheat the chinch-bugs are beginning to work. *Dickinson*: Have not had a better prospect for the last twelve years. *Howard*: The chinch-bug troubles some late-planted corn. *Linn*: Excessive wet cut short the corn-crop in acreage and made it difficult to keep it clean, but nearly every farmer runs a two-horse cultivator, and so they are getting the weeds reduced. *Labette*: Would be an average crop were it not for the ravages of the chinch-bugs. Any amount of corn in the county that was knee-high one week ago is now dead. Have seen stalks, 20 inches high, clear of a bug in the morning at 6 o'clock, at 6 in the evening literally black with bugs all around and two or three deep. *Neosho*: The chinch-bugs are now going for the corn, and have already materially injured the crop. *Osage*: Mostly planted very late. *Rice*: A very hard storm, June 30, blew the corn down very badly. *Sedgewick*: Too wet to cultivate corn to advantage. *Shawnee*: Uneven and some late; the early fine. *Sumner*: Some fields very weedy on account of wet weather; growing finely. *Washington*: Though planted late, is well advanced by the exceeding warm weather. *Republic*: About two or three weeks late, but doing well. *Jefferson*: Owing to wet weather it has been extremely difficult to secure a fair stand of corn, and much of that coming up well has been abandoned to the weeds; such as has been cleaned out is doing remarkably well. *Pottawatomie*: Choked by weeds owing to the ground being so wet that the farmers could not cultivate it.

NEBRASKA.—*Hall*: In consequence of one heavy rain-storm after another the greater portion of corn was planted in June, and some of our best bottom-lands not till June 20. *Merrick*: A good deal of corn was planted between the 15th and 25th of June. *Boone*: Excessive moisture has retarded the growth of corn; the acreage much decreased in proportion to the increase of population. *Nemaha*: The low price deterred many from planting the usual quantity; the late spring retarded planting, and the cool rainy weather has caused that planted to become very foul. *Clay*: The bulk not planted till June; though not as forward as usual, the prospect is good. *Richardson*: In low places rather weedy. *Cass*: Very late and in rather bad condition. *Burt*: Backward on account of rains, late planting, and grasshoppers.

CALIFORNIA.—*Fresno*: Grasshoppers are injuring the crop. *Butte*: Only a little corn raised.

OREGON.—*Multnomah*: No better prospect for the last thirteen years. *Clackamas*: The cool weather has retarded the growth of corn. *Douglas*: Corn did not come up even. *Columbia*: The weather has been too cool and cloudy for corn; it looks sickly. *Linn*: In a better condition than ever before.

UTAH.—*Utah*: The cold rains and frosts, the last of May and first of June, rotted the corn in the ground. *Davis*: The excessive rain in the latter part of May was very injurious to corn; many had to replant.

## COTTON.

The total area in cotton in 1872, as estimated by this Department from the most accurate information attainable, was 8,500,000 acres. The returns for this year indicated an increase of about 12 per cent. The breadth planted was quite enough to tax to the utmost all available labor under the most favorable circumstances. But throughout the cotton States, for a period varying from twenty-five to thirty-five days, according to locality, and ending between the 20th and 30th of June, the weather was wet beyond precedent. Furthermore, for reasons reported in June, the crop was generally from two to four weeks late. The large area planted, the lateness of the crop, and the almost incessant rains, for weeks preventing work and stimulating the growth of grass and weeds, have combined to produce a demand for labor which it is impossible to meet. A few reporters complain of the unreliability or the laziness of the freedmen, but the majority of those which refer to the subject give them credit for doing better this season than heretofore, and place the difficulty on the ground of a demand for work which the laborers in this section, even with their best efforts, are too few to meet. In consequence of this excess of rain and lack of labor, weeds and grass have been overshadowing the cotton-plant in every State and in almost every county reported. The area that for this reason has been either abandoned outright or plowed up and planted in corn will probably nearly equal the excess over last year's acreage. The reports, with few exceptions, are despondent in tone and picture a somewhat gloomy prospect. But they doubtless are not fully exempt from the common tendency to exaggerate the bad effects upon crops of unpropitious weather prevailing in the present, and to understate the future chances of recuperation from those effects. It would be safe to make some grains of allowance for this—transferring them from the discouraging to the hopeful side of the harvest-prospect. The last days of June were generally favorable, and the condition was, in many locations, already beginning to assume a more promising aspect. Cotton-worms, caterpillars, and lice had appeared in small numbers at several points, but as yet had not done serious damage. The average condition for all the cotton States, (not counting Virginia,) as made up from all the counties reported, was 89.5. Ten counties reporting from Virginia make the average condition 108, 2 being placed at 100, 6 above, and 2 below. Princess Anne, 150; Sussex, 120, in which "the condition as compared with last year is owing in great measure to the more general use of the best fertilizers." In Southampton, 110, "cotton seems to have absorbed all farming interest, even at the expense of grain." In Prince George, 90, "the cold, wet May retarded cotton-planting; much planted early had to be replanted; now a fair stand, but the plants small."

In North Carolina, 43 counties make the average condition 91; 14 are placed at 100, 7 above, and 22 below. The extremes are Polk, 125; and Montgomery, 25. Harnett and Cumberland report 70; Onslow, Surry, Greene, Pasquotank, and New Hanover, 75. The difficulties which most of the counties have to contend with are briefly stated in the report from Chowan: "Looking bad; cool weather, heavy rains, and a scarcity of labor have caused large fields to be abandoned. Too much planted; labor cannot be had; \$1.50 and \$2 per day have been paid for farm-hands." Franklin is either more industrious or better supplied with labor than the average, for it reports, "generally clean and well cultivated." Other extracts follow:

*Sampson* : Small, but coming out rapidly. *Pasquotank* : Owing to the cool late spring and excessive rain since, it looks now as though we might not raise a half crop. *Mecklenburgh* : Heavy rains in May, and want of labor have caused some fields which were well prepared by fertilizing and otherwise to be abandoned. Hands leaving farms and going to railroads, after contracting with the farmers for the year, will prove a serious loss to our farmers. A larger amount of fertilizers has been sold this year than ever before. *Gaston* : Owing to the too showery weather it has cost an unusual amount of labor to keep cotton clear of grass ; a very small part will be wholly lost. It is now improving. *Cumberland* : Fifteen days behind average season ; prospects gloomy. *Davidson* : The extreme wet weather has greatly injured the crop. *Currituck* : The acreage, as compared with last year, is 200 ; looking well and promises a good crop. *Anson* : Beginning to look well, though small and backward. From the long-continued wet season and scarcity of labor, many fields were either turned out or plowed up and planted in corn ; the acreage reduced 10 per cent. *Pitt* : Recent dry weather has enabled farmers to get clear of grass, and hence cotton has reached an average condition. *Beaufort* : Small for the season, but generally in good condition and healthy. *Moore* : Late ; with favorable season henceforth will be an average crop. *Polk* : So much rain all through June that farmers are very much behind in their work with cotton. *Stanley* : The plant so far has met with no disaster, and the growth is thrifty. *Burke* : Our farmers are trying cotton for the first time as an experiment, and the prospect is very favorable.

In South Carolina the condition of only one county among the 16 reporting comes up to average, the general average condition being 82. The range is from 70 (Williamsburgh and Chester) up to 100, (Laurens.) Greenville reports "more planted than can be worked." Chester, that "some have lost one-half for the want of efficient labor." York, that "the increased acreage and the excessive rains have rendered proper cultivation almost impossible," and Laurens, that "there has been about 40 per cent. more guano than usual used, and this has given a great impetus to the grass. One-tenth of the crop in this county will be lost from this cause."

*Clarendon* : Decidedly poor ; excessive rains in May and first two weeks in June retarded the growth of the plant, but caused the grass to grow vigorously, and to some extent exhausted the value of the fertilizers used. *Chester* : Excessive rains through May and up to June 14 caused farmers to abandon one-eighth to one-fourth of the crop to grass and weeds. Crop fifteen days behind last season. *York* : In cases where proper attention has been bestowed the appearance is good, though not up to last year's at this date. The spring has been cold and wet, and the growth much retarded. *Newberry* : At least three weeks behind the usual season. The continued heavy rains, almost daily, have caused portions of the crop to be abandoned on most plantations ; a scarcity of labor on most farms. *Laurens* : The cold spring kept the cotton from coming up, and the continued showery weather has caused the grass to grow rapidly and kept the laborers from the field. *Barnwell* : Stands are deficient, and the plant does not look as well as usual. *Georgetown* : Is being cultivated, but as yet on too small a scale to be considered one of our staples. There is no doubt that it will pay better than corn on our sandy lands, and the area of cultivation will be increased. *Greenville* : From 3 to 12 inches high ; growing very slowly ; more planted than can be worked. *Marlborough* : Three weeks late ; on account of late frosts and heavy rains the stand is not good ; the grass has taken at least 10 per cent., and injured the remainder. Labor is very short. *Richland* : Very small and grassy ; fears that much will be abandoned, probably reducing the acreage below an average. *Fairfield* : The month of May and part of June very wet. Good stands the last of April, but since then perhaps the hardest struggle with grass ever known in this county. *Chesterfield* : On some land highly manured, where cotton was 4 feet high last year at this time, it is not more than 20 inches now. *Union* : Too much rain and too much grass ; about two weeks later than last year. *Williamsburgh* : Better than at last report, but not yet free from grass, and still much below the average. *Orangeburgh* : One month behind, and the stand much injured by cutting out the grass. *Marion* : Backward ; defective stands ; badly in the grass. The weather now favorable to culture and growth.

In Georgia, from which 58 returns have been received, the average condition is 94 ; 17 counties are 100, 10 above, and 31 below. The condition in Douglas County, which is about a specimen for the State, is described thus : "Farmers are very much in the grass on account of too much rain and overcropping themselves. Some have been compelled to give up cotton-fields, even those on which they had used guano."



But all do not yield to discouragement. Many are battling courageously with the grass, and victory with its rewards is anticipated. Summer reports: "Raining almost daily for a month, and a great deal of grass, but our planters are straining every nerve, and ten days of sunshine would enable them to put the crop in good condition." The account in Heard is: "An exceedingly wet June, and grassy crops, but every farmer seems determined to work it out, and I think they will succeed." In Whitfield, 125, "The farmers have cultivated their crops well, and cotton was never more promising." In Schley, "Labor is working well;" and in Hart, though "Cotton is generally in a deplorable condition, not having been cleaned of grass in time, the area is so much larger than in previous years that the probability is yet good for a fair average crop." Pickens returns a condition of 200; Gordon and Madison, 125.

*Worth*: The floods have nearly ruined cotton. *McDuffie*: Since last report it has rained every week, and sometimes every day in the week. Consequently cotton is in a worse condition than for twenty years at the same season. In many instances the grass has choked out the cotton, and there is not over three-fourths of a stand in the county, and that three to four weeks late. *Upson*: Acreage large; prospect fine for a good crop. *Schley*: Owing to the continual rains, up to June 18, it is very grassy. The caterpillar has appeared in some localities. *Richmond*: Wherever worked early and well, the condition above that of the crop of 1872 at this date. Crops on lowland badly damaged by grass; many fields have been abandoned. No signs of caterpillar. *Lee*: Generally in the grass, after three weeks of rain. *Clinch*: The heavy rain during June has cut off the cotton crop fully one-third. *Oglethorpe*: The unfavorable condition of the crop is owing to the unprecedented wet weather in the last half of May and the first half of June, coupled with the fact that a fuller crop than usual to the land was planted. In some cases the grass is larger than the cotton, and not yet hoed. Some will be abandoned entirely. *Gwinnett*: Land too wet to be stirred; hence crops grassy, and in many cases materially injured. Cotton, where worked, looks well. *Brooks*: An unusual quantity of rain the past month has been damaging to the cotton-crop. *Clayton*: Owing to the wet weather farmers have had a tight scuffle with the grass, and some will lose a part of their cotton-crop. *Marion*: The crop has been injured by too much rain and an overcrop of grass. *Macon*: The almost incessant rains have prevented work and promoted the growth of grass and weeds, and the cold nights have caused lice. *Putnam*: Looks well. *Spalding*: Great diversity of opinion as to cotton; everything at work to keep down the grass. *Twiggs*: Very small, poor stands, and in bad order. Rain twenty-three days in June. It has been impossible to work the crop. *Walton*: Injured by excessive rain and grass. *Greene*: Heavy rains have fallen for about two months, and much cotton has not been chopped out yet. The crop will be very short. Some upland is very fine, while some grounds have been abandoned. *Laurens*: The continued heavy rains have made it impossible to keep crops clean; a good deal of cotton will be abandoned. *Coweta*: Where it was worked early and regularly looks well. Some has been thrown out, and very much has been injured for the want of work and by lice. *Calhoun*: Three weeks of rainy weather have caused the cotton to become lousy and badly in the grass. *Muscogee*: In a very unsatisfactory condition; stand only tolerable; grassy, small, and three weeks behind. *Effingham*: Improving and looks very well. *Wilkes*: Grass now almost in possession of cotton; some fields not worth working out; have been but few clear hot days to kill the grass. *Dooly*: Early cotton just beginning to bloom, but affected somewhat by recent heavy rains. *Baldwin*: Rains almost daily in June; much of that month the soil was too wet for plowing, and the grass has obtained the mastery in many of the plantations, reducing the cotton to 80. *McIntosh*: Crop much injured first by the long drought, and since by the heavy rains. *Pike*: Prospect unusually poor, owing to the excessive and long-continued rains; hundreds of acres have not been thinned out. *Milton*: Owing to heavy and continuous rains throughout May and June, cotton has been overrun with grass, and many fields have been plowed up and planted to corn, or turned out. *Franklin*: Lice on cotton to a considerable extent. *Carroll*: Quite small on account of the long wet weather. Farmers have had great trouble with wet, lice, grass, and weeds. *Cobb*: The late spring and an unusual amount of rain have done much injury to the cotton-crop. *Fayette*: Greatly injured by grass, and a considerable portion has been abandoned; cannot possibly make more than two-thirds of a crop. *Wilkinson*: Small and in the grass.

From Florida only 10 counties have reported, making an average condition of 99; the extremes being Sawannee, 75, and Liberty, 150. In

Madison the acreage is 25 per cent. greater than last year. In Leon and Columbia caterpillars have appeared in some localities, but have not done much damage.

*Madison*: Running too much to weeds, in consequence of rain. *Orange*: Looks well. *Jackson*: The plant fully up to the season, with good size, and blooming freely; the grass, however, is quite troublesome, and keeps planters busy. *Hamilton*: Doing well; no caterpillars yet. *Leon*: Doing tolerably well; excessive rains for the whole month have made the crop grassy. It is fruiting well, and not shedding yet. *Columbia*: Too much rain for sea-island cotton the past month. *Gadsden*: The deterioration in condition since the last report is in consequence of the excessive floods of rain, preventing proper cultivation and inducing the prevalence of lice.

From Alabama, 6 counties return average condition, 3 above, and 27 below; making a general average of 85. Geneva, 125; Walker, 115; Saint Clair, 110; Franklin and Limestone, 50; Wilcox, 55; the others, from 75 up to 100. In Franklin, "for five weeks there have not been more than five days in which it was dry enough to plow. A good deal of cotton has been plowed up and the ground planted in corn." The status is somewhat similar in a large portion of the counties. In Bullock, "it is estimated that at least one-fourth of the acreage has been lost because of the overflow of bottom-lands and the destruction of the stand in cleaning the crop of grass." In Limestone, "a great deal has not yet been chopped out, and large planters have abandoned, some one-half, some one-third, &c." Lauderdale reports, "badly injured in stands by cut-worms;" Clarke, "some caterpillars;" and Tuscaloosa, "caterpillars in one locality." In Perry, "labor has been more faithful than usual, and the crop has shown decided improvement in the last week."

*Jackson*: Growing rapidly, but very weedy. *Barbour*: The rains for the last thirty days have been terribly destructive to cotton. *Blount*: Very promising. *Hale*: Rain has been falling in torrents for the last six weeks, so that the cotton is overrun with grass. Have not seen it in such bad condition, at this season, since 1856. *Choctaw*: Abundance of rain and crop very grassy. *Macon*: Seriously injured by heavy rains. The grass has taken all the lowland and much of the crop will have to be turned out. *Greene*: Very much damaged by too much rain. Labor not sufficient. *Crenshaw*: June extremely wet and the crop suffering for want of work; has commenced blooming, and may make an average crop. *Clarke*: Too wet for cotton; overrun with weeds and grass. *Montgomery*: Backward and in the grass, but healthy. *Chambers*: In the grass on account of so much rain, but farmers are busy in getting it out. *Coffee*: Having too much rain for cotton. *Dallas*: Continuous rain since the 23th of May has very much injured the cotton. The condition may be regained, but many fields are likely not to be reclaimed from grass. *Geneva*: Crop never better. *Perry*: Greatly injured by excess of rains; on the flat lands the water has injured the crop at least 10 per cent., while throughout the county it has suffered for work; every farm being more or less in the grass. *Butler*: Very backward; materially injured by excessive rains in May and June. The farmers not able to keep the crop clear of grass; in some places portions are abandoned entirely to it. *Marshall*: Foul, by reason of the continued wet weather. *Pike*: Much lowland cotton lost; the upland injured by grass and weeds. *Limestone*: Cotton ten or fifteen days late, and most of it lost in grass. *Lauderdale*: The rains have been so incessant since the middle of May that it has been a hard struggle to keep the grass out, and many acres are thrown out. *Winston*: Heavy rains prevailing since June 13 have retarded the rapid growth of cotton. *Conecuh*: On highlands where it has been worked, looking well; all damp lands lost in the grass with no hope of extricating it. *Calhoun*: Rather grassy, owing to the great amount of rain. *Marengo*: Some are plowing up their grassy cotton to plant more corn; on uplands where it has been well worked it is promising; but much of it on the richest land is so foul that it will either have to be abandoned, or, if worked, will be much injured in the stand. Hear of the worm in some localities; it still rains every day. *Morgan*: Rain more or less every day for three weeks; crops very much in the grass, and some on the very low lands are drowned out. *Randolph*: Where clean looks very well, but the farmers are badly in the grass and not much prospect of getting out soon. *Saint Clair*: The wettest June I ever saw. If the rain continues much longer cotton will be ruined by lice and other insects. *Tuscaloosa*: On uplands very good; on lowlands drowned out. *Wilcox*: Continuous rains for the past two months; impossible to secure cotton stands and kill the grass.

In Mississippi 31 counties make the average condition 83, 8 being 100, 2 above, Newton 150, and Hinds 105; and 21 below, the lowest being Marion, 58, and Jefferson, Claiborne, and Pike, 60; the others ranging from 75 upward. Newton reports, "the very high condition is not too high for the facts; we have had a vast deal of rain, and farmers are to some extent in the grass, but are working out." The extremes of condition, as affected by labor or the lack of it, are stated in the returns from Neshoba and Noxubee; in the former, "where it has been well worked, looking very well;" in the latter, "much in the grass; one-fourth of the crop must be turned out."

*Yalabusha*: Very grassy; a good deal being turned out, planters finding it impossible to work it. Prospect rather gloomy. *Kemper*: In the grass, and a considerable share of what is planted will have to be turned out. Continuous rains all through May and June. *Panola*: Very late and grassy; poorest prospect for twenty-five years. *Lowndes*: Lowlands drowned out, and highlands very much injured by rain; crop at least a third below average condition. *Wilkinson*: Daily rains since May 12 have very seriously damaged cotton; full of grass and weeds. Caterpillar reported in several parts of the county. *Claiborne*: Suffering from excessive rains. *Madison*: At least one-fourth of the crop in the bottom-lands has been abandoned in order to save the remainder. *Jefferson*: Stalk, where well cultivated, larger than at the same period last year—more sap and less fruit. *Holmes*: Backward. Continued rains have kept the crop in the grass, and many planters have not yet finished hoeing it out the first time. *Warren*: Owing to frequent rains in June many of the fields are grassy. The plant has grown rapidly, but the number of forms is not in proportion to size. *Pike*: The continued rains have put the fields so in the grass that the prospect is very gloomy; it is impossible to get the fields in a condition to make a good crop. *Amite*: Above average in acreage and condition; having too much rain. *Jasper*: Since May it has rained more or less almost every day, consequently the grass and weeds have outgrown the cotton, which is almost covered with foulness. It is said that the cotton-worm is on many plantations in the county. *Marion*: The crop has suffered immensely from rain; not more than three days have elapsed for the last six weeks without it. The cotton-worm has made its appearance in great numbers; all anticipate the destruction of the crop by the last of July. *Grenada*: Cotton worked out up to this time has a fair average prospect; but an unusual amount of it is still in the grass and unworked for the first time. *Lee*: More planted than ever since the war, but the worst prospect ever seen; not a bloom seen yet. Causes, late planting and too much rain. Some crops not yet worked over for the first time. *Smith*: Prospect not favorable on account of incessant wet weather. *Bolivar*: Prospect very poor, though better than two weeks ago. There are a few not yet through hoeing over the first time, owing to the wet weather. *Clark*: The great amount of rain in May and June has caused many planters to lose a considerable amount of the cotton planted—at the lowest estimate, 15 per cent. Some have plowed up what they could not work out and planted corn. *Lafayette*: Looks well, but owing to continued rains is in many plantations very grassy; some has been abandoned. *Yazoo*: Having all the time too much rain for cotton. *Winston*: Has rained almost every day since the 1st of June; many farmers are not able to work out their cotton in the bottoms, and have given up a part as lost in the grass. *Tishomingo*: Rain every day in June but four. Cotton in the grass; lowlands given up; will perhaps be something over half a crop. *Tunica*: Heavy rains throughout June have damaged the prospects of cotton; the farmers have struggled hard, but in some instances have lost a part of the crop in the grass.

In Louisiana three parishes report a condition above average; Winn, 105; Richland and Union, 110; and in the latter "the prospect of a large crop better than in any year since the close of the war." Tensas returns average, and the others reporting, below; the lowest being Cameron and East Baton Rouge, 50; and Carroll, Rapides, Red River, Claiborne, and Avoyelles, 75. In East Baton Rouge "a great deal will have to be abandoned entirely, being drowned out by the rains and overcome with the grass." The report from Iberia (60) concludes: "Have now had eight days without rain, and planters are working vigorously to relieve their crops from weeds and grass." The caterpillar is reported on several plantations in West Feliciana, and worms have made their appearance in Concordia and Cameron. In Red River though the condition is placed at 75, the crop "is looking remarkably



fine;" and in Tensas, though rains in June brought out the grass and threatened the crops very seriously, yet, "by a tremendous effort all around, the grass was exterminated, and the crop now promises even more than last year." The general condition is 80—lower than in any other State, except Texas.

*Aoyelles*: Low condition, owing to rain nearly every day for six weeks. *Orleans*: A shower of rain almost every day in the last six weeks; grass and weeds are well in the ascendancy. *Iberia*: In certain portions of the parish almost totally destroyed by hail during the latter part of May; much had to be replanted. *Caddo*: June very wet; cotton grassy and backward. *East Feliciana*: Has rained almost incessantly since the 1st of May, and many crops are almost hopelessly in the grass; but if we escape the worm we may yet make a fair crop. *Claiborne*: In danger of an overwhelming grass assault; persistent rains during the month of June. *Franklin*: Promising, but more grassy than usual on account of continual wet weather. *Morehouse*: Five weeks of rain, and therefore cotton badly in the grass; the ground too wet to plow. *Tangipahoa*: Constant rains; a good deal of cotton lost in the grass; the cotton-worm has appeared on many farms. *West Feliciana*: The weather has been very rainy, and the crop is badly in the grass; the stand is not good. *Concordia*: Constant rain for three weeks in June; bottom crop of cotton very short, yellow and scalded; crops three weeks behind, and worms three weeks ahead. *Carroll*: In bad condition owing to so much rain. Planters have not been able to work at all in many places. Some few have thrown away as much as half to try to save the other from grass. *Rapides*: Very small and much of it already thrown out; the remainder cannot be cleaned out in time to make half a crop. *Cameron*: Excessive rains from the last of May through June caused crops to suffer from drowning and scalding. The cotton-worms appeared in May, and are now abundant. The prospect for a crop poor indeed. *Bossier*: Vast quantities of rain. Most of the laborers have kept their crops clean; those who have not have a very poor crop; but crops on the average are better than for several years.

In Texas the cotton-crop has had to contend with a cold, backward spring, late, severe frosts, and excessive rains, protracted beyond precedent. Fifty-one returns make the average condition for the State only 78. Two counties are 100, 9 above, and 40 below. Those above are Hill and Collin, 125; Tarrant, 120; Comal, 115; Orange and Sabine, 110; Medina and Karnes, 105. Rusk and Anderson, 100; Kendall (not credited with any cotton in the last census returns) reports a condition of 7 only; Blanco, 35; Montgomery, 40; Leon, Cooke, Fort Bend, Matagorda, Colorado, Red River, and Austin, 50. Austin reports that there have been five weeks of rain; that the fields are all overrun with grass and weeds; that much of the crop has already been abandoned, and that it is at least one month late. Furthermore, "the first brood of worms has commenced webbing up, and should the second brood appear in large numbers within the month of July almost no crop will be made." Our reporter in Fort Bend says: "Owing to late frosts and about forty days of consecutive rains from about the 10th of May, cotton is comparatively a failure in this part of the State. Level, black lands are drowned out; from 200 acres of such land, planted by the writer, not one acre will be saved. The highest estimate made for the county is one-fourth of a crop." Lavaca reports that work has been prevented by heavy and incessant rains since the 1st of June, and, in consequence of grass and weeds, "fully three-fourths of the crop will be lost."

*Bell*: The heavy rains nearly every day for the last four weeks have materially impaired the crop. *Caldwell*: The great decrease in average condition is owing to the excessive rain-fall for the last three weeks. It has promoted the growth of grass and weeds, and prevented the farmers from working their crops. *Polk*: Have had six weeks of rain; cotton may possibly come out in time to make three-fourths of the crop of 1872. *Milam*: A month later than last year and greatly in the grass and weeds. Frost continued late, then dry for some time, and now entirely too wet. Prospect rather unfavorable, but hope for a good crop yet. *Dallas*: Much of it will not be cleaned out, being entirely overgrown with weeds and grass. *Tarrant*: Looks well. *Navarro*: The crops on low or level lands are in bad condition; on rolling lands very good. If the weather continues good the cotton crop can be saved. *McLennon*: Late frosts, with the rain which has been without a precedent for ten years past, makes all

crops backward. *Kendall*: Very late. *Red River*: There will be some cotton on very clean land, but as a general thing the cotton is run away with grass and weeds. *Bexar*: Damaged to some extent by too much rain. *Conal*: Late frost in the spring killed the cotton, and farmers had to replant. Owing to this, and the excessive rains for the last four weeks, it is impossible to estimate the crop. If the fall should be favorable it will be average. *Kaufman*: Many fields too wet to work and 10 per cent. thrown out. *Coryell*: The plants look fine, and if the season holds out more cotton will be made in this county than ever before. *Grimes*: Much in the grass; if the rain continues we shall not make half a crop. No season can now make it exceed 75 per cent. *Lamar*: Retarded by the backward spring; when the young plant was struggling for existence—just getting up after frost—several hail-storms almost destroyed the crop in about half our county; after which continual rains for seven weeks prevented the farmers from clearing it of grass. *Upskur*: Started fine, but the late rains have put it in the grass. No doubt a considerable quantity will have to be abandoned in order to save the remainder. *Gonzales*: Quite late, and being injured by excessive rains. *Henderson*: Has rained almost every day; will have to be very favorable if we make half a crop of cotton; can hardly see it for the grass and weeds. *Medina*: Improved by abundant rain-fall. *Matagorda*: Small, and a great deal injured by grass and weeds. *Montgomery*: So overrun with grass and weeds that it is considered impossible to reclaim it all; many have entirely abandoned their crop; the bottom-land cotton is a total failure. *Colorado*: The wet season has taken the cotton crop; with hard work may be half a crop. *Ellis*: Much of the cotton has been drowned out. Rain lasted thirty-seven days, during which no work was done, and a great deal has been abandoned; cannot make a half crop. *Fayette*: Large, and with a favorable season from this time will be a large crop, provided the caterpillar does not come too soon. *Galveston*: All sea-island cotton in this county; crop very backward; rains excessive; second crop generally planted; worm has appeared on a few plantations, but not done much damage yet. *Karnes*: Rather too much rain for cotton, and reports of the worm have reached us. *Washington*: From the 10th of May to the 20th of June excessive rains almost daily; cotton has suffered seriously; in low places plants scalded, and all more or less injured by weeds and grass. *Anderson*: June exceedingly rainy, preventing cleaning and retarding the growth of cotton. *Waller*: Twenty to thirty days behind last year on account of frost April 10, and continued rains through the last of April, and May, and June. *Rusk*: On the high-land looks well; on the bottom-land it turned yellow from wet and grass. The first blooms on the 21st of June. *Burnet*: At least four weeks backward, but growing finely now. *Marion*: Seriously damaged by excessive rains; farmers not being able to keep down the grass. *Cooke*: Rained from the 24th of May to the 9th of June so constantly that everything got foul; much cotton abandoned to the weeds. *Hunt*: The acreage of cotton will necessarily be decreased, many farmers having abandoned a portion of their crop to the weeds. *Hill*: The late spring and great amount of rain since have put cotton back three weeks; the prospect now good, though late. Increase in acreage 23 per cent. *Leon*: From present indications we will not make half a crop, it having rained almost every day from the 10th of May to the 20th of June. While a portion is in good condition, much will have to be turned out from the fact that it has not had the first working. *Panola*: Very promising.

Twenty-nine cotton reports have been received from Arkansas. Making allowance for Newton, which returns the extravagant condition of 500, but which reported no cotton for the last census, the average condition is about 96. Sharp returns 125; Arkansas, 120; Van Buren, 105; 9 return 100, and 16 below that figure; the lowest being Hempstead, 50; Cross, 70; and Montgomery, 75. Hempstead, though reporting a condition of 50, "almost incessant rains for six weeks," and that "cotton has not been worked out the first time," predicts that it may "possibly make a fair crop yet." In Independence, notwithstanding the late planting, the plant has "attained the usual size at this date, and at the same time a vigor and health never surpassed in the county." In Arkansas it "never looked better;" in Craighead it is "doing well;" in Woodruff, where it was "very dry all through June," it is "not as large as usual, but clean and better cultivated;" and in Fulton it was backward, but "has sprung forward with extraordinary vigor and growth, and no drawback except a few cases of cotton-lice."

*Monroe*: About two weeks later than usual. *Union*: Rain almost every day since planting; a great deal of cotton replanted; badly in the grass; will improve soon as dry weather sets in; labor improving. *Prairie*: Excessive rains have retarded and in-



jured all the crops: with favorable weather, cotton may reach an average. *Jefferson*: The continual rains for the first three weeks of June have kept cotton in the grass, injuring the crop, and causing bad stand from the almost impossibility to get laborers. *Bradley*: That portion which has been well tilled is far above an average, but, owing to late continued rains, a considerable portion is in the grass. *Dorsey*: Excessively wet weather during the past two months has seriously injured the cotton-crop. Thousands of acres are so overrun with grass and weeds that it can never be cleaned out. *Cross*: Damaged by too much rain. *Columbia*: Looking well on all dry land, badly on wet, and much still in the grass. *Crittenden*: Too much rain, and plenty of grass. *Drew*: The excessive rain-fall since the middle of April has rendered it impossible to give cotton the requisite cultivation, and caused many to abandon a part of their crop. *Tell*: A little later than usual; all that has been worked since the dry weather set in looks better than usual, though there is a great deal in the grass yet. *Sebastian*: Promising a good yield. *Montgomery*: In consequence of so much wet, the cotton-crop is in a wretched condition, overrun with grass and weeds. Many fields have been plowed up and planted in corn, and others given up to the grass.

Twenty-four counties in Tennessee return an average condition of 96; 7 at 100, 5 above, and 12 below. Wayne, 125; Wilson and Hardin, 120; Davidson and Humphrey, 110; Bradley, 50; others from 80 up to average.

*Maury*: Properly worked, would have been over an average. It has suffered for want of plowing, and is being injured by grass. *Newbern*: Has suffered very much in consequence of the continued wet weather; much of it very grassy, and will be late in maturing. *Giles*: Has been plowed up by several; that remaining can scarcely be seen for weeds and grass, but has a fine color, notwithstanding the protracted and unprecedented rains. *Obion*: Suffering for the want of work; the ground has been so wet it is impossible to work it. *Sevier*: But little raised here; what is looks well. *Henry*: Generally suffering on account of grass and weeds; in low lands, in many instances, the crop is abandoned. *Weakley*: Have had more rain during the past two and a half months than was perhaps ever known to fall here in the same time and season; this causes the low condition of cotton. *Davidson*: In the weeds, and will fall short. *Benton*: Prospect gloomy. *Haywood*: Owing to excessive rains during June, the cotton-crop became literally smothered with grass and weeds.

Missouri appears to be giving increased attention to the culture of cotton, and with encouraging results: Fourteen counties report making an average condition of 105; 7 being one hundred, 6 above, and 1, Pemiscot, 80. In the last named, the crop is "much more in the grass than in other years;" in Ozark, it "looks fine;" in Cedar, where the condition is put at 110, cotton is receiving the attention of growers, and "has thus far proved a profitable crop;" and in Stoddard, where the condition is also 110, the only drawback is that the lands "are at present too rich, for the cotton averages about four feet high, and therefore requires to be planted farther apart than in most of the cotton-lands; otherwise it does not mature well." The highest condition is in Dale, 130.

Kansas is also experimenting in cotton-growing with encouraging prospects. Montgomery reports considerable cotton planted this season. Labette: "Cotton first planted in the county promises well." Sumner: "Cotton doing superbly, but, as it is our first year of extensive experiments, we can hardly make an average condition." Eight counties report making an average condition of 105.

## OATS.

The prospective yield of oats during June declined in all the New England and Middle States, Maryland, Virginia, Mississippi, Ohio, Michigan, Indiana, Illinois, Minnesota, Iowa, Missouri, Kansas, and Nebraska. The condition of the crop was enhanced in all the other States, especially in the South. That is, the prospects have declined in those States, which produced 227,993,000 bushels of the estimated total yield of 1872, which was 271,747,000. The drought prevail-

ing in the Eastern States is sufficient to account for the great decline in that quarter. Insect enemies and stormy weather are alleged as causes of same decline in the Northwestern States. The following table shows the status of the counties reported :

| States.             | OATS.                   |                   |                         | States.            | OATS.                   |                   |                         |
|---------------------|-------------------------|-------------------|-------------------------|--------------------|-------------------------|-------------------|-------------------------|
|                     | Counties above average. | Counties average. | Counties below average. |                    | Counties above average. | Counties average. | Counties below average. |
| Maine.....          | 2                       | 2                 | 5                       | Texas.....         | 15                      | 10                | 15                      |
| New Hampshire.....  |                         | 3                 | 5                       | Arkansas.....      | 16                      | 7                 | 3                       |
| Vermont.....        |                         |                   | 10                      | Tennessee.....     | 41                      | 3                 | 5                       |
| Massachusetts.....  |                         | 2                 | 6                       | West Virginia..... | 17                      | 5                 | 7                       |
| Rhode Island.....   |                         |                   | 3                       | Kentucky.....      | 22                      | 12                | 9                       |
| Connecticut.....    | 1                       |                   | 5                       | Ohio.....          | 2                       | 13                | 42                      |
| New York.....       | 2                       | 3                 | 37                      | Michigan.....      | 7                       | 4                 | 25                      |
| New Jersey.....     |                         |                   | 13                      | Indiana.....       | 10                      | 8                 | 33                      |
| Pennsylvania.....   |                         | 3                 | 44                      | Illinois.....      | 14                      | 23                | 29                      |
| Delaware.....       | 1                       |                   | 2                       | Wisconsin.....     | 19                      | 7                 | 5                       |
| Maryland.....       | 2                       | 2                 | 11                      | Minnesota.....     | 10                      | 14                | 11                      |
| Virginia.....       | 40                      | 23                | 9                       | Iowa.....          | 16                      | 22                | 11                      |
| North Carolina..... | 31                      | 13                | 12                      | Missouri.....      | 22                      | 18                | 20                      |
| South Carolina..... | 9                       | 3                 | 3                       | Kansas.....        | 19                      | 15                | 5                       |
| Georgia.....        | 34                      | 17                | 5                       | Nebraska.....      | 7                       | 5                 | 5                       |
| Florida.....        | 3                       | 1                 |                         | California.....    | 1                       | 5                 | 12                      |
| Alabama.....        | 25                      | 9                 | 3                       | Oregon.....        | 11                      | 4                 |                         |
| Mississippi.....    | 11                      | 6                 | 6                       |                    |                         |                   |                         |
| Louisiana.....      | 4                       | 3                 | 1                       | Total.....         | 425                     | 270               | 417                     |

MASSACHUSETTS.—*Norfolk*: Oats having had an early start, are not so much affected by drought.

CONNECTICUT.—*Hartford*: Oats about two-thirds of a crop.

NEW YORK.—*Columbia*: Almost a failure. *Schoharie*: Not over a half crop. *Warren*: Unavoidably a short crop. *Wyoming*: Injured by drought. *Orange*: Poorest crop ever known. *Chautaugau*: Backward but looking well. *Rensselaer*: Many fields will not be harvested. *Schenectady*: Heading out 6 inches from the ground. *Westchester*: There will be no oats. *Albany*: Heading out 6 inches high; many fields will be pastured. *Chenango*: Suffered from drought. *Erie*: Thin.

NEW JERSEY.—*Sussex*: Injured by drought. *Morris*: Short and poor. *Camden*: Short and thin.

PENNSYLVANIA.—*Montgomery*: Oats poor; injured by drought. *Wayne*: A failure—*Westmoreland*: Injured by drought. *York*: Straw short but yield good. *Union*: Backward. *Bucks*: Very light; some pastured and some turned under and sown with Hungarian grass. *Clearfield*: Promising. *Centre*: Shortened by drought. *Dauphin*: Only a half crop. *Fayette*: Short strawed, but heading well. *Huntingdon*: Injured by cold weather in April and May. *Lycoming*: Injured by drought. *Lancaster*: Very poor; heading low. *Tioga*: Injured by drought. *Pike*: Average yield 40 bushels per acre. *Indiana*: May yet reach a reasonable crop.

DELAWARE.—*Kent*: Injured by drought.

MARYLAND.—*Washington*: Crop will be short. *Baltimore*: Injured by drought. *Queen Anne*: Very much revived by the late rains.

VIRGINIA.—*Pulaski*: Promising. *Fluvanna*: Unusually good. *Lunenburg*: Oats promising. *Wythe*: Oats sown late and unpromising. *Warren*: Threatened by grasshoppers. *New Kent*: Fine in quality. *Orange*: Fine crop assured. *Caroline*: Season favorable. *King George*: Excellent. *Powhatan*: Good. *Sussex*: Better than for several years. *Clarke*: Injured by early drought, but greatly improved with late favorable weather, especially in the north part of the county. *Chesterfield*: Winter seedling yielded largely; spring seedling heavily headed; prospect of largest yield since the war. *Washington*: Heading low on account of drought. *Bath*: Look well. *Middlesex*: Winter oats excellent. *Nansemond*: Late and short. *Madison*: Unusually promising. *Gloucester*: Drought has cut short a very promising crop. *Sussex*: Better than for years. *Mecklenburgh*: Fair crop. *Henrico*: Very good. *Halifax*: Much improved since June 1; injured by chinch-bug. *Highland*: Doing well. *Prince George*: Best crop in many years. *Campbell*: Extraordinary promise.

NORTH CAROLINA.—*Forsyth*: Very fine. *Franklin*: Suffering through drought. *Da-*

*rie*: Never better. *Alamance*: Fair crop. *Davidson*: In many localities winter-killed. *Polk*: Better than for several years. *Greene*: More or less injured. *Cherokee*: Promising; free from rust.

**SOUTH CAROLINA.**—*Lexington*: Potato-oats from the Department ripened three weeks later than the black oats, and, consequently, injured by the late rains; yet the potato-oats is superior, being a foot taller than the black.

**GEORGIA.**—*Schley*: Oats in fine condition. *Calhoun*: Large crop. *Douglass*: Finest crop for many years; potato-oats did very well. *Muscogee*: Below expectation. *Spalding*: Never looked better. *Gwinnett*: Fine; full average. *Cobb*: Injured by wet. *Whitfield*: Entirely free from rust; never better.

**FLORIDA.**—*Jackson*: Largest crop ever raised.

**ALABAMA.**—*Blount*: Oats-crop very fine. *Chambers*: Very fine. *Clarke*: Carter "rust-proof" oats very fine. *Geneva*: Good. *Bullock*: Unusually good.

**MISSISSIPPI.**—*Grenada*: Potato-oats from the Department very fine; sown about March 16. *Macon*: Fine. *Grainger*: Very fine; 30 bushels per acre. *Winston*: White oats mature too late, ten days after red oats. *La Fayette*: Unusually good. *Jefferson*: Very fine, but considerably fallen through wind and rain. *Wilkinson*: Injured by excessive rains.

**LOUISIANA.**—*Morehouse*: Potato-oats fine. *Caddo*: Average, eighty bushels per acre.

**TENNESSEE.**—*Wilson*: Unexceptionable. *Donelson*: Very good. *Monroe*: Best crop in many years, but badly lodged. *Bradley*: Promise an abundant yield. *Robertson*: A splendid crop ruined by rain and wind.

**TEXAS.**—*Gonzalez*: The "Mississippi red" oats do not rust. *Rusk*: Fine and large; did not rust. *Bandera*: Destroyed by grasshoppers. *Cooke*: Greatly improved by the rains. *Burnet*: Injured by grasshoppers. *Upshur*: Late rains saved the crop. *Polk*: Red or "rust-proof" oats a perfect success. *Kendall*: Entirely destroyed.

**ARKANSAS.**—*Fulton*: Increased acreage and splendid crop. *Independence*: Never better.

**WEST VIRGINIA.**—*Raleigh*: Very good. *Pendleton*: Promising; acreage increased. *Braxton*: White Schonen oats a very promising crop; also the Black Norway. *Barbour*: Good. *Mercer*: Quite promising. *Cabell*: Late, but looking well. *Pocahontas*: Fine condition. *Monroe*: Over average.

**KENTUCKY.**—*Boyle*: White Schonen fine, but badly lodged. *Johnson*: Somewhat injured by rain. *Scott*: Very tall; will fall if wet weather continues. *Russell*: Very fine. *Pulaski*: Some fields rusted and some fallen on account of rain. *McLean*: Excelsior a successful crop, but rather late in maturing; more productive than native varieties. *Logan*: Superior. *Fayette*: Early-sown very good; late-sown very poor. *Laurel*: Promise a good yield. *Adair*: Better than usual.

**OHIO.**—*Hamilton*: Birle oats a failure; potato oats not promising. *Allen*: Inferior in quantity and quality. *Athens*: Oats were promising, but late winds and rain have left them flat. *Hancock*: Look well. *Holmes*: Short but growing finely. *Portage*: Increased acreage; good color, but short-strawed; greatly improved by late rains. *Morroe*: But half the usual acreage sown; condition below average. *Delaware*: The fine weather will probably bring the crop to a full average. *Crawford*: Sown late and will be short. *Coshocton*: Wet April and May, and dry June, have cut down the yield one-half. *Morgan*: Backward. *Mercer*: Acreage reduced. *Marion*: Late sown; acreage reduced. *Lorain*: Crop late. *Adams*: Suffering for rain. *Medina*: Sown late and hurriedly. *Jackson*: Short-strawed, but stand well on the ground. *Greene*: Early-sown good, but the most were late-sown on account of wet, and are very poor. *Williams*: If rain does not come soon the crop will be a failure. *Noble*: Injured by drought.

**MICHIGAN.**—*Washtenaw*: Crop short. *Tuscola*: Need rain. *Lenawee*: Shortened by drought. *Clinton*: Suffered severely from late drought. *Cass*: Injured by drought. *Van Buren*: Suffered from drought. *Ionia*: Suffered from drought. *Calhoun*: Injured by drought. *Branch*: Shortened 40 per cent. by drought.

**INDIANA.**—*Brown*: Rain just in time to save a short crop. *Morgan*: Average condition; half average acreage. *Montgomery*: Light; short-strawed; heads medium. *Noble*: Will not amount to much. *Newton*: Short-strawed, but heads and grains well developed. *Martin*: Destroyed by drought. *Harrison*: Late, but look well. *Kosciusko*: Failure through drought. *Lake*: Shortened by drought, but benefited by late rains. *Owen*: Reduced acreage and short crop. *Orange*: Look well. *Ripley*: Made a good start, but are suffering from drought.

**ILLINOIS.**—*Franklin*: Badly injured by late storms. *Ogle*: Acreage decreased; condition below average. *Montgomery*: Average restricted by spring rains. *Macon*: "Potato" oats ripen ten days later than "Surprise" oats. *Lawrence*: Decreased acreage; promising. *De Kalb*: Promising. *Marion*: Ruined by chinch-bugs. *Jersey*: Very good; stand up well and are well filled. *Iroquois*: Acreage restricted by bad sowing weather in spring. *Clark*: Small acreage sown. *Madison*: Acreage reduced one-half by bad spring weather at sowing. *Sangamon*: Very promising.

**WISCONSIN.**—*Dunn*: Early-sown oats good.



MINNESOTA.—*Goodhue*: Spring-wheat promising. *Faribault*: Badly injured by wet, especially on low grounds. *Douglass*: Prospect never so good before. *Fillmore*: Looking first-rate. *Blue Earth*: Injured by wet.

IOWA.—*Plymouth*: Good on fall plowing, but not good on spring plowing. *Harrison*: Sown largely, and promising.

MISSOURI.—*Dallas*: Chinch-bugs mischievous. *Wright*: Finest crop for years; potato oats poor. *Phelps*: Chinch-bugs injured the crops. *Clay*: Look as well as they can. *St. François*: Fine, but damaged by storms. *Reynolds*: Fine, but much thrown down by winds. *Ralls*: Unusually promising. *Pulaski*: Increased acreage; looks well. *Jasper*: Threatened by chinch-bugs. *De Kalb*: Average. *Bolinger*: Fine. *Christian*: Very poor. *Caldwell*: Remarkably good; heading out June 26. *Chariton*: Late-sown; looks poorly. *Platte*: Hardly worth saving. *Rice*: Potato-worms. *Neosho*: Threatened with chinch-bugs. *Labelle*: Suffering from chinch-bugs; reduced one-fourth. *Davis*: Damaged by winds and rains on bottom lands.

NEBRASKA.—*Cass*: One-fourth of the oats blighted. *Nemaha*: Oats very productive and seldom fail. *Boone*: Suffering from drought. *Merrick*: Short.

DAKOTA.—*Hanson*: Look well.

COLORADO.—*Larimer*: Greatly damaged by grasshoppers.

NEW MEXICO.—*Mora*: Benefited by late copious rains.

## RYE.

Winter-rye improved during June in Rhode Island, Connecticut, New Jersey, Maryland, Virginia, North Carolina, Mississippi, Texas, Arkansas, Ohio, Michigan, Illinois, and Iowa. It remained stationary in Georgia, and declined in all the other States reported. Spring-rye is average or above in Minnesota, Iowa, Missouri, Kansas, Nebraska, and Oregon. In all the other States it is below average; the minimum, 70, is in California, and the maximum, 110, is in Nebraska.

NEW JERSEY.—*Burlington*: Quality good.

PENNSYLVANIA.—*Montgomery*: Rye well grown and matured. *Fayette*: Very little grown, and only to tie up corn-fodder. *Tioga*: One farmer raised 24 bushels on a single acre, the average being 16 bushels.

MARYLAND.—*Baltimore*: Above average.

NEW YORK.—*Columbia*: No grain; very fair straw. *Saratoga*: Looked finely in the spring, but the heat burned it out.

VIRGINIA.—*Pittsylvania*: Rye raised only by a few old settlers; it will thrive on a soil less rich than that required by wheat. *Sussex*: Better than for several years. *Highland*: Greatly winter-killed.

NORTH CAROLINA.—*Clay*: Almost a failure. *Greene*: More or less injured.

TEXAS.—*Gonzales*: The common native rye has done well. *Medina*: Nearly destroyed by grasshoppers. *Bandera*: Destroyed by grasshoppers. *Burnet*: Injured by grasshoppers. *Blanco*: Acreage increased 50 per cent. *Kendall*: Entirely destroyed.

TENNESSEE.—*Donaldson*: Very good. *Bradley*: Very fine.

WEST VIRGINIA.—*Mercer*: Stood the freeze much better than wheat. *Pocahontas*: Good prospect.

KENTUCKY.—*Fayette*: Good. *Butler*: Badly frozen out.

OHIO.—*Greene*: Crop fine and safe.

INDIANA.—*Newton*: Winter-rye escaped the freeze, and now promises a full yield.

ILLINOIS.—*Bureau*: Winter-rye from the Department looks splendid; other varieties badly frozen out.

KANSAS.—*Davis*: Winter-rye on uplands generally good. *Leavenworth*: Very good.

NEBRASKA.—*Nemaha*: Rye very productive. *Merrick*: Rye from the Department doing splendidly.

## BARLEY.

Winter-barley during June improved in Pennsylvania, Georgia, Kentucky, Michigan, Missouri, and California; it declined in Texas, Ohio, and Kansas. Spring-barley improved in New Hampshire, Rhode Island, Ohio, Michigan, and Wisconsin; it declined in Maine, Vermont, Massachusetts, Connecticut, New York, Pennsylvania, Indiana, Illinois, Minnesota, Iowa, Missouri, Kansas, Nebraska, California, and Oregon.

## GRASS AND PASTURES.

Owing to the drought, which prevailed in June throughout the New England and Middle States, and in portions of Ohio, Michigan, and California, pastures and clover are below average in all those States; and timothy in all, except Vermont, 101; Connecticut, 102; and Massachusetts, Rhode Island, and New York, 100. In all the other States pastures are above average, and clover is average or above in all except Mississippi, 95; Illinois, 92; Wisconsin, 83; and Minnesota, 88. Florida, Louisiana, and Texas do not report clover, and these States, together with South Carolina and Mississippi, do not report timothy, which is above average in all the remaining States. The States showing the highest condition of pasturage are Alabama, 118; Texas, 115; Wisconsin, 114; Mississippi, 113; Louisiana, 112; Georgia, 111; and Florida and Nebraska, 109; Arkansas and Tennessee, 108; Iowa and Missouri, 107; Kansas, 106. Those lowest are Rhode Island, New York, and Pennsylvania, 75; New Jersey, 78; Maryland, 79; Massachusetts and Connecticut, 80; California, 85; Vermont and Pennsylvania, 89. Of clover, the highest condition is found in Missouri and Nebraska, 107; Georgia and Oregon, 106; South Carolina, 105; Kansas, 104; the lowest in New Jersey, 70; New York, 72; Rhode Island, 78; Massachusetts, 79; Delaware, 80; Wisconsin, 83; the highest of timothy, in California, 110; Minnesota, 107; Wisconsin and Nebraska, 106; Georgia, Alabama, Tennessee, and Missouri, 105; the lowest, in New York, 67; Rhode Island, 72; Connecticut and New Jersey, 75; Massachusetts, 76; Vermont, 77; Maryland, 82; Delaware, 83; Maine, 84; Pennsylvania, 85.

Since the 1st of July, refreshing rains have revived those sections that were suffering from drought, and the hay-crop, though not reaching an average, will evidently be larger generally than correspondents then predicted. The following extracts will afford more specific information respecting the condition of pastures and grass, and the prospects of the hay-crop in the several States:

MAINE.—*Androscoggin*: Clover and timothy fair, as they got a good start before the pinching drought came on. Old fields and pastures are suffering. *Oxford*: Pastures drying up; unless rain comes soon cattle will have to be fed from the stable. *Franklin*: The dry weather the last half of June has injured the hay-crop materially. *Aroostook*: Grass wintered finely, and the hay-crop must be abundant, though the grass will not be fit to cut for two weeks yet. Pastures good and stock in thriving condition. *Sagadahoc*: One of the severest droughts ever known at this season; hay will consequently be light.

NEW HAMPSHIRE.—*Grafton*: Very little rain for some four weeks, and if the drought continues much longer it will affect the hay-crop seriously. *Carroll*: Suffering badly from drought. Hay-crop will be small. *Belknap*: Having a very dry time; grass is suffering. *Sullivan*: The lack of rain for the month of June is telling hard on the hay-crop. *Hillsborough*: Should have had an unusual crop of clover but for the drought; as it is, we have more than for several years. Clover and other grasses have suffered at least 25 per cent. We began to cut the 15th of June, and now the great proportion of English grass is in the barn in fine condition. *Merrimac*: The hardest drought for many years, so early in the season; grass on dry soils about ruined.

VERMONT.—*Windham*: The grass in many places is entirely dried up, and the prospect is that we shall not get more than half an average crop of hay. *Addison*: The season opened with great promise for grass, but for three weeks past we have suffered severely from drought, reducing the crop of clover and timothy 50 per cent. *Rutland*: Grass in pastures and meadows is fast drying up. *Orleans*: All crops suffering from drought; hay-crop very short and drying up; on light soils not half a crop. Clover in low lands much injured by frost May 31. Pastures are better than mow-lands. *Grand Isle*: Grass thick set in the spring. Only occasional light showers since the snow went off; consequently grass is drying up. *Franklin*: The comparatively cool weather has to some extent mitigated the severity of the drought, which has prevailed for a month and a half, upon grass; while many of our pastures are much parched, in

the main they seem to stand the drought better than the meadows, and the effect upon dairy products, our great specialties, is less felt than usual in dry seasons. *Caledonia*: The most severe drought for many years until June 25; since that date frequent rains, and the grass has improved in many places one-half. *Chittenden*: Not over three-fourths of an average crop of hay; pastures drying up very fast.

**MASSACHUSETTS.**—*Norfolk*: All kinds of grass are short; while on some low wet land a fair crop will be cut, upon old and dry meadows in many cases it is not worth cutting. *Dukes*: Pastures and hay-crop shortened one-half by the severe drought which has prevailed for some time. *Berkshire*: A month since we have had rain of any amount. Grass started most beautifully in May; now newly stocked lands and top-dressed meadows are in general medium—some more than that. The falling off will be on old meadows and very dry soils. The crop will probably be better than last year's. Farmers are each year giving up plowing more and more, and top-dressing with all the manure they can make. This saves much labor and pays well. *Worcester*: Very dry; pasturage short. *Franklin*: A severe drought prevailing through the county; the hay-crop will be short. Pastures drying up. *Hampden*: No rain for seven weeks; pastures drying up. *Plymouth*: June a very dry month; pastures suffering very much.

**CONNECTICUT.**—*Windham*: Never knew of such a drought at this season; many fields of grass are completely dried up.

**NEW YORK.**—*Saint Lawrence*: Emphatically a grazing county, wholly devoted to dairying. The pastures have been very fine, and a large yield of butter and cheese has been made. The hot dry weather for a few days past has shortened the pastures and dried up the meadows, but a larger yield than last year is expected. *Columbia*: Pastures light; a very severe drought is now affecting everything. *Westchester*: No rain for four weeks. Pastures are all dried up. *Rensselaer*: The worst drought I have seen in this county in sixty-five years. Shortest crop of hay for many years; on many fields and spots there will be no hay gathered. *Montgomery*: Scarcely any pasture, (owing to the severe drought.) Some farmers are feeding their milch cows on grass mowed from the meadows, and many are purchasing Western corn to feed their stock on next winter. *Greene*: Vegetation is completely dried up in our county. The pastures and some of the meadows are literally burned up. *Chemung*: We have had a half dozen light showers in the last week, too late to save our grass crop. Another winter with scarce and dear fodder is inevitable. *Steuben*: Old meadows are very light, caused by drought. *Warren*: Have had but little rain since April; grass is drying up fast. Hay is unavoidably a short crop, and clover and timothy sowed in the spring cannot be found at present. *Cattaraugus*: Hay-crop injured by spring frost and dry weather. *Albany*: The earliest and greatest drought that has ever prevailed in the county; the hay-crop very poor. Am urging our farmers to plow up old meadows, after mowing, and sow corn for fodder, and intend to do so myself. *Orange*: Hay very light; but little more than half an average crop. *Madison*: Very dry; hay not over half a crop. *Wyoming*: Clover and timothy are a short crop. *Washington*: Very dry; much of the corn planted this spring did not vegetate. *Kings*: Uncommonly dry season; hay-crop very light. Hay is selling to-day at \$2 per hundred; ten days ago the same could be bought for \$1.50. *Jefferson*: Dry weather during May and June; our meadows cannot be benefited much more, and hay, the crop we most depend upon, will be light. *Onondaga*: Not more than half a crop of hay. *Ontario*: June the driest month ever known; old meadows the thinnest and poorest known. Good rains within a few days, and grass now doing well. *Allegany*: June dry until the last; pastures short, but now, July 5, the ground fully wet.

**NEW JERSEY.**—*Sussex*: The clover, timothy, and pastures are injured by the dry weather. The hay-crop will be light. *Mercer*: Timothy will almost be a failure in some parts of the county owing to the severe drought. *Union*: Clover nearly all killed last season by the early drought; timothy short, and on gravelly soil burned; only one light shower for over five weeks. *Burlington*: Hay-crop hurt by the drought; many fields will not cut half an average. Our farmers are sowing a great deal of millet and Hungarian grass. These did good service last year, and there will be an increased acreage this. *Warren*: Clover and timothy rather short, owing to some insect destroying the clover in some measure last summer. *Essex*: An extraordinary diminution in the rain-fall; the hay-crop will be very short, and the pastures are literally burning up.

**PENNSYLVANIA.**—*Montgomery*: Grass and pastures are moderately good, but want rain. Grass well set but short. *Lebanon*: Hay nearly all made and of a superior quality, but below an average in quantity. *Buller*: Clover and timothy not over a half crop; will not be half-crop of hay. *York*: Grass an average crop. *Wayne*: Very dry the past month; the hay-crop will be light. *Lancaster*: Farmers are now making hay, and with the good weather they have had they have housed the best and most solid crop of hay ever harvested. It grew up with very little wet weather, and consequently is of a very good quality. *Clearfield*: A fair crop of grass. *Lycoming*: Having a drought, which will make the timothy meadows somewhat short. *Lehigh*: The dry



spell in the middle of June retarded the growth of grass very much. *Fayette*: The hay-crop lighter than for many years. *Erie*: Clover not three-fourths of a crop. *Chester*: The early spring was wet and cold, making the ground in a condition to bake; the weather then setting in hot and very dry cut short the hay-crop and spoiled the pastures. *Dauphin*: The entire month of June has been excessively dry, and pastures are almost burned up. *Centre*: Hay-making is about finished; the crop was good. *Crawford*: A severe drought for some six weeks has shortened the hay-crop and the pastures very much. *Lawrence*: June very dry and hot, almost parching up the pastures and meadows, up to the 23d; then a heavy rain completely soaked the ground, but too late for most of the hay, which will not be much over half a crop. *Tioga*: The severe drought in June injured clover, timothy, and pastures. *Susquehanna*: Feed plenty. *Indiana*: The hay-crop will be light.

**MARYLAND.**—*Montgomery*: Most of the clover-fields failed of a set. *Dorchester*: The drought (which still prevails) has seriously shortened the clover and timothy. *Baltimore*: The hay-crop considerably injured by the protracted drought. *Howard*: Abundant early rains gave us good clover, and the subsequent drought has affected it but little. *Charles*: The drought of last year is being felt in the grass-crops.

**VIRGINIA.**—*Pulaski*: Grass promises well. *Northumberland*: Timothy and clover thin, owing to the effects of winter, but the growth good, as it was last year. On several farms the army-worm has appeared, and farmers are mowing the crop to save it. *Rappahannock*: The clover sown this season is well set, and promises well. *Stafford*: Condition of pastures better than last year. *Warren*: Pastures are parched by the dry weather. Clover, injured by frost in winter, is entirely destroyed by grass-hoppers in the north-western part of the county. *Susser*: Clover and timothy are rapidly superseding barn-straw. *Powhatan*: Pasturage good. *Caroline*: Pasturage never better. *Chesterfield*: Pasturage excellent from frequent rains. The first cutting of clover good, with a fine prospect for a better second crop. Timothy and grasses generally good. *Loudoun*: June dry: pasturage giving way, while clover and timothy have held their own pretty well. *Fairfax*: The hay-crop will not be a full-one. Old timothy meadows have not recovered from the drought of the past two years. *Fauquier*: Grass promises a full crop. *Madison*: Pasturage good; clover good, but acreage far below average; timothy excellent. *Nansemond*: Clover late and short. *Prince George*: Clover and timothy, where not killed out by the drought last summer, have produced a heavy yield. *Henrico*: The cool, wet weather of April, May, and June was the very thing for grass, and Henrico was never more blessed in this respect. Clover, finer than I ever saw it, was cut and sold nearly a month ago, and the second crop is mostly fine. *Montgomery*: All crops late except grass; the season dry until July 1st. *Highland*: Pastures better than usual.

**NORTH CAROLINA.**—*Pitt*: The few small lots of red clover planted last spring have proved a decided success, and will stimulate its increased production. *Ashe*: Grass fine.

**SOUTH CAROLINA.**—*Greenville*: Clover is cut in June; second crop promises to be the best; timothy is as high as the wheat this year.

**GEORGIA.**—*Lumpkin*: One of my assistants sowed the Italian rye-grass, (sent by the Department), and, if it continues as it now promises, he considers it the best pasture.

**ALABAMA.**—*Greene*: The crop of clover is small but exceedingly good. *Morgan*: Our clover crop (for hay) nearly lost by wet weather. *Randolph*: But little clover sown.

**MISSISSIPPI.**—*Wilkinson*: Red clover, timothy, Italian rye-grass, mesquite, orchard, and other grasses were very fine, but have been much damaged by excessive rains. The clover-crop cut off one-half in value from having no weather in which to harvest it.

**LOUISIANA.**—*Franklin*: Pastures could not be better.

**ARKANSAS.**—*Independence*: Pasturage never better. *Arkansas*: Grass never looked better. *Fulton*: In the last year or two several of our farmers have sowed clover for an experiment, and it promises to do well.

**TENNESSEE.**—*Coffee*: Rain all the time since the middle of June, which will injure the hay-crop very much if it continues two weeks longer. *Giles*: Out of the past twenty-two days it has rained nineteen, and is raining still; the meadows need mowing. *Loudon*: Grasses have not suffered. *Stewart*: All the grasses have done well. *Giles*: Much of the clover was killed by the winter freezes. Pastures that were almost bare on the 1st of May are now luxuriant. *Jackson*: Grass-crops very fine. *Montgomery*: Where not frozen out clover looks well. *Bedford*: Clover suffered during the winter by the hard freezes, and owing to the late spring pastures are not equal to last season. *Bradley*: On account of the dry April, clover was reduced to less than half a crop. *Knox*: The month of June has been one of almost constant rains, which have made the clover and timothy much better. *Lincoln*: In the midst of an unusually wet spell, the hay crop is now ready, and in a few instances suffering for want of cutting. *Granger*: A cold snap about the 6th of March killed about one-half of our clover and timothy. *Monroe*: Pastures generally improving; clover good where it was not killed by frost and cut-worms in the spring. Timothy and red-top splendid. *Wilson*: Clover not so good as last year; much of it blighted by the freeze of winter.

Pasturage good. Timothy and all meadow-grass look well. *Weakley*: Clover and timothy very good. *Fentress*: Grass extra good.

**WEST VIRGINIA.**—*Jefferson*: About 225 acres of Hungarian grass has been sown for hay, to make up in some measure for the scarcity of the regular crop of clover and timothy. *Pocahontas*: Season never better for grass. Clover, fine prospect; timothy, very heavy crop. *Cabell*: Both clover and timothy good. *Harrison*: A magnificent crop of grass; meadows will be better than for several years. *Wayne*: Hay nearly all secured in good condition; doubt whether we ever had a more abundant crop. *Barbour*: The finest grass for many years. *Pendleton*: Pastures and meadows more than double in quantity and quality. *Raleigh*: Pastures very good. *Monongalia*: Rains during the past week fine on the pastures; meadows backward, and will not produce more than two-thirds of a crop.

**KENTUCKY.**—*Laurel*: Meadows promising a good yield. *Fayette*: Clover was badly winter-killed. Pastures not as good as usual. *Andersor*: Pastures very fine, and the meadows better than common and much clearer of weeds. *Hardin*: Pastures very poor; clover all frozen out. *Larue*: Clover killed in the winter. *Lincoln*: Pastures very good. *Livingston*: Have had so much rain that it has destroyed nearly everything except grass. *Logan*: All clover one year old and over frozen out in February and March.

**OHIO.**—*Meigs*: Clover very badly winter-killed; the dry weather of last fall killed much of the timothy meadows. *Trumbull*: Very dry time; hence grass very light. *Miami*: Grass-crop very fine. *Ross*: The clover-crop is grand. *Fulton*: Extremely dry; meadows and pastures drying up. *Genesee*: Pastures and meadows very fine. *Jackson*: Meadows better than for many years. *Medina*: Pastures had turned brown, and meadows were at a standstill, but now they are checked in their downward course. *Adams*: No rain since June 3d; grass suffering. *Erie*: Very dry; grass light. *Lorain*: Clover short in growth, but mostly secured in good order. Pastures over an average. *Pickaway*: Seasonable rains have made fine grass and hay. *Vinton*: Grass promises well. *Crawford*: Pastures good; good crop of clover. *Athens*: Grass abundant in pastures and meadows.

**MICHIGAN.**—*Wayne*: Meadows unusually poor, owing to the severity of last winter and to a very severe drought in June. *Hillsdale*: Pastures and timothy injured by drought. *Shiawassee*: Pastures much improved by a heavy rain on the 25th and 29th of June. *Livingston*: Pastures all drying up; old meadows nearly killed out. *Montcalm*: Clover and timothy very poor, owing to the cold last winter; never saw timothy so poor in this county. *Kalamazoo*: A scorching drought of four weeks, commencing the 28th of May, had begun to feel fearfully on the pastures; a fair rain on the 29th of June revived everything.

**INDIANA.**—*Scott*: Grass of all kinds splendid. *Ripley*: Clover and timothy made a good start, and clover is made, but timothy will be injured materially if rain does not come soon. *Orange*: Timothy seems hurt by winter; meadows foul. *Dubois*: Some fields of grass injured by the worm; otherwise it is extra fine. *Floyd*: Meadows not first rate, and pastures about an average. *Hamilton*: Clover and timothy a fine crop. *Harrison*: Pastures and meadows splendid. *Switzerland*: Hay-crop not quite as good as last year.

**ILLINOIS.**—*Sangamon*: Clover and timothy, where recently seeded down, suffered very much for want of rain in June. *Pike*: Clover very heavy. Pastures excellent; timothy very light. *Tazewell*: Grass-crop will be good but late. *Warren*: Season very dry; grass-crop very light; pastures nearly bare for want of moisture. *Edgar*: Our people now begin to appreciate clover; have increased the acreage fully 200 per cent., and it is very fine. *Edwards*: The meadows would have been excellent had not the army-worm swept through. *Lee*: Hay will be an average crop; many have cut down their grass, and it now lies bleaching in the field. *Perry*: Timothy-meadows much injured by the army-worm. *Mercer*: Most of the clover killed. *Franklin*: Very much of the timothy destroyed by the army-worm; what they did not injure, very excellent. *Douglas*: Wet; much hay already spoiled.

**WISCONSIN.**—*Brown*: Red clover greatly winter-killed; timothy partly winter-killed, but the wet weather has made it up to a full average. *Ozaukee*: Old meadows below an average, but new do first rate, and clover, especially where plaster has been applied, was never better. *Pierce*: Clover never so badly winter-killed; yet some fields sown last season, that were well covered with clover-straw, very splendid. *Portage*: Grass heavy. *Richland*: Clover winter-killed some in the south part of the county. *Walworth*: The winter so injured the clover that one-fourth of a crop is all we can realize. *Waukesha*: Clover winter-killed. *Jefferson*: Clover completely winter-killed; upland meadows of all kinds suffered by the hard winter. *Dane*: Clover of more than one year badly killed; timothy and the native grasses have had a luxuriant growth. *Eau Clair*: Grass ready for cutting soon as the weather will permit. *Green*: Clover badly winter-killed. *Outagamie*: Not twenty-four hours without rain for the past two weeks; clover, which is generally cut the last week in June, suffering badly.



MINNESOTA.—*Dakota*: Grass of all kinds is very heavy. *Houston*: Grass seldom better. *Goodhue*: Red clover severely damaged by successive freezings.

IOWA.—*Lyons*: The hay-crop will be below average; nine-tenths of the clover in pasture and meadow killed last winter. *Louisa*: Clover was nearly all frozen out. *Des Moines*: Clover about all winter-killed; timothy will make about half a crop. *Lee*: Many timothy-meadows badly damaged last year by grub-worm, which, with little rain for a month, will make the yield short. *Monona*: Clover reduced by the severe winter.

MISSOURI.—*Platte*: A great deal of rain in June; clover has been injured. *Cass*: Pastures extra. *Bollinger*: Clover and timothy good. *Boone*: All timothy-meadows very much injured by the white-blossom weed. *De Kalb*: Clover and timothy very heavy. *Harrison*: Grass fine and strong. *Manteau*: Timothy badly frozen out. *Ozark*: Clover, timothy, and pastures look fine. *Phelps*: Abundant showers, and the pastures, clover, and timothy are looking finely. Hay is being cut. *Barry*: Continuous showery weather through May and June brought the grasses forward rapidly. *Schuyler*: Grass in all its conditions very fine.

KANSAS.—*Douglas*: Hay is excellent. *Leavenworth*: Grasses never were better. *Butler*: Pasturage excellent. *Osage*: Clover and timothy the finest I ever saw.

CALIFORNIA.—*San Luis*: Drought and grasshoppers have made sad havoc with our pastures. *Tuolumne*: The early cessation of the winter rains has caused the pastures to dry up nearly two months earlier than usual. *Humboldt*: Pastures are looking extra fine.

OREGON.—*Multnomah*: The season throughout the entire Willamette Valley favorable for grass. *Douglas*: On account of our dry summers, timothy as a meadow lasts but a short time. Most farmers depend on raising wheat and oats, and cutting green for hay. *Columbia*: Timothy looking exceedingly well. *Polk*: More rain in June than usual, grass-crop presenting a fine appearance.

## FRUITS.

In the northern sections of the country, the intense cold of last winter, and in the southern, late severe frosts and freezes in the spring, did immense injury to the fruit-trees and grape-vines, and, only in a less degree, to the strawberry-vines. Vast numbers of peach-trees and many apple-trees were killed outright, (as will be seen from the subjoined extracts,) and very many more were seriously injured. The injury to apple-trees was more serious and extensive than was apparent when the report for May and June was made up. Many trees that leaved out and bloomed profusely have since died; and where apples appeared to be well set the complaint is general that they wither and drop off. Insects are doing more or less injury to the portions of the crop which are otherwise in fair condition. In Kansas an "apple-tree blight" prevails somewhat extensively. It is described as closely resembling the "pear-tree blight."

*Apples* are below average in condition in every State except Oregon, (where but few are produced,) which is 101. The States in which the condition is lowest are Tennessee, 36; North Carolina and Illinois, 50; Delaware, 53; Connecticut, 55; Kentucky, 56; Massachusetts, 58; South Carolina, 60; Rhode Island and Wisconsin, 66; Indiana, 69; New Jersey and Texas, 70; Pennsylvania, 71; Iowa and Missouri, 73; Maine, Maryland, Georgia, and Minnesota, 75; New York and Ohio, 76; New Hampshire, West Virginia, and Kansas, 77.

*Peaches* are below average in condition in all the States producing them; the lowest is in Ohio, 26; Tennessee, 33; Pennsylvania, 35; Kansas, 36; Illinois, 42; South Carolina, 44; Michigan, 45; Connecticut and Missouri, 48; North Carolina, 54; West Virginia and Kentucky, 56; New Jersey and Maryland, 58; Massachusetts and Nebraska, 61; Indiana, 63; Texas, 66. The highest condition is in Rhode Island, 98; and the next in Oregon, 95.

*Pears*, the condition of which is not reported by figures, promise relatively better than apples and peaches.

*Grapes*.—The average condition of grapes in Nebraska is represented

by 106; Delaware, 103; West Virginia, 100; in all the other States it is below 100. North Carolina, 60; Pennsylvania and Ohio, 62; Illinois, 63; California, 70; Indiana, 72. The remainder range between 77, (Tennessee,) and 98, (Oregon.)

*Strawberries*.—The average condition of strawberries was, in Nebraska, 127; Delaware, 125; Oregon, 113; Kansas, 106; Maryland and Alabama, 104; Mississippi, 101; Arkansas and Minnesota, 100. In the remaining States the range was from 61 in New Jersey to 96 in California.

MAINE.—*Androscoggin*: Apples did not blossom largely, and almost all blighted. Grapes have put out well. *Oxford*: Apples looking well; in many places caterpillars abundant. *Aroostook*: Apples, plums, and cherries never looked more promising.

VERMONT.—*Grand Isle*: Small fruits good, but apples and pears begin to fall.

MASSACHUSETTS.—*Norfolk*: Apples very few and more than commonly affected by insect bites. Peaches in many cases winter-killed, and but little fruit. Grapes winter-killed in some cases.

NEW YORK.—*Niagara*: One per cent. of an average crop is a high estimate for the peach-crop. *Rensselaer*: Apples and pears dropping off. *Steuben*: Grapes are setting very full. Apples do not promise a full crop. *Cattaraugus*: Fruit injured while in blossom by frosts. *Wyoming*: Apples not promising; crop will be short. Grapes looking well. Strawberries have done well. *Erie*: The crop of apples, pears, and cherries is large.

NEW JERSEY.—*Sussex*: Apples not plentiful, and peaches and grapes very scarce. Most of the trees and vines suffered severely last winter, many being killed down to the ground. The strawberry-crop ruined by the drought. *Mercer*: Fruit will be about a failure in some parts of the county owing to the severe drought. *Burlington*: Peaches reported 50 in part of the county; none at all in this section. Poor crop of cherries. *Morris*: Apples set quite full; are falling off considerably. Think the wood was injured last winter by freezing. No peaches of any consequence on low land; fair crop on high land, but falling off very much. A good crop of pears.

PENNSYLVANIA.—*Wyoming*: Peach-trees nearly all killed last winter and grapes mostly frozen down to the ground. *Snyder*: The peach-trees and grape-vines have all been frozen. *Butler*: Apples reduced to one-fourth of a crop by the effects of the dry weather. Peaches nearly all winter-killed. *York*: Fruit of all kinds will be enough to satisfy all reasonable demands, except peaches, which are a failure. *Lancaster*: Fruit-crop very short, without exception, and peaches a total failure. *Clearfield*: Apples a great show of blossoms, but the fruit rather light. *Washington*: No peaches worth mentioning. *Lehigh*: No peaches except a few on elevations of about 900 feet above tide-water; in lower localities no blossoms appeared; grapes shared the same fate, except those laid down and protected. *Fayette*: The peach-buds were nearly all killed, and in many instances the trees badly injured by the severe cold of last winter; grape-crop light from the same cause. *Erie*: Peaches and grapes killed by the hard winter. *Beaver*: But few peach-trees survived last winter's freezing. *Cameron*: Grapes will not be more than half a crop; bugs are destroying them. *Lucerne*: Fruit scarce. *Indiana*: But little fruit of any kind; apples are falling off. *Jefferson*: Peaches all killed by frost.

MARYLAND.—*Dorchester*: The acreage in strawberries is seven times what it was last year, but the fruit not over double, on account of the dry weather. Peaches are falling off the trees badly, and what promised a full crop last month may not yield over half a crop. Grapes are extremely promising where intelligently cultivated. This section appears to be peculiarly adapted to them. *Kent*: No cherries in the county.

VIRGINIA.—*Spottsylvania*: Very many apples have fallen from the trees. The peach-crop is extra large; grapes very fine. *Sussex*: A great falling off in apples and peaches, owing probably to two or three severe frosts in May last. Small fruits are attracting more attention than heretofore. *Orange*: Grape-culture promises to become within a few years a leading industry of the county. *Chesterfield*: Very small percentage of apples clinging to the trees. A very heavy crop of cherries and plums. Peaches very fine and with prospect of paying well. *Princess Anne*: The fruit-crop, especially peaches, bids fair to be larger than ever known in the county. Apples will be short. *Greenville*: Apples blossomed and set very full, but the cold, wet weather caused them to fall off so that now very many trees are without any. Peaches about in the same condition. *Floyd*: The fruit-crop not so promising now as last month. Apples very defective; at least one-fourth of the entire crop are falling off prematurely. *Fairfax*: Peaches have generally failed. *Fauquier*: Grapes promise a heavy crop. *Southampton*: Apples in good condition, but the crop very small. A fine and large crop of peaches. *Alexandria*:



Peach-crop very poor from severe cold and heavy sleet in February and March. *Highland* : Peaches a failure.

**NORTH CAROLINA.**—*New Hanover* : Fruit-crop almost entirely destroyed by heavy frost in April. *Chatham* : So much rain that grapes have rotted badly. Over one-third of my pear-trees are dead or dying with the blight. *Chowan* : Not enough apples to make vinegar for the county's use. Pears, peaches, and grapes will fall short of an average crop. *Franklin* : The fruit-crop is very uneven ; the hail damaged it in some sections of the county. *Iredell* : An entire failure in apples and peaches on account of late frosts. *Davidson* : The late frost killed both apple and peach blooms in many places. *Alamance* : Fruit-crop very short—almost a failure. This county, in 1872, shipped 400,000 pounds of dried fruit—berries, cherries, plums, peaches, and apples. The shipment in 1873 will be very small. *Moore* : The late frost destroyed the apple and peach crop except in very elevated localities. *Robeson* : The only year within my recollection that the fruit of all kinds was so entirely destroyed by frost. *Clay* : The apple and peach-crop almost a failure. *Madison* : Apples were nearly all killed by the late frosts, and the fruit-crop generally is almost a failure. *Stokes* : Apples and peaches continue to drop off. *Stanley* : The frost of April swept away the apples and peaches. *Burke* : By reason of late frosts, the apple and peach crops are an entire failure in some parts of the county.

**SOUTH CAROLINA.**—*Clarendon* : Fruit of every kind seriously injured by late frosts ; not a half crop on the trees. *Lexington* : Grapes generally destroyed by the frost. Only once before, in the last thirty years, do I remember such a calamity to have befallen us.

**GEORGIA.**—*Richmond* : Varieties of grapes of the types *Festivalis*, *Cordifolia*, and *Labrusca* are decaying badly, except *Ives*, *Delaware*, and *Concord*. The latter are not quite sound, but better than most other varieties. Scuppernong and all varieties of the type *Rotundifolia* are sound, but the crop of fruit small, owing to the superabundance of rain during the inflorescence of the vine. Crop of peaches small ; injured by frost April 26. A very large crop of pears. *Baldwin* : Apples and peaches were injured by late frosts. *Guinnett* : All fruits killed by late frosts, except in a few localities.

**FLORIDA.**—*Orange* : The orange-crop promises to be a good one. *Jackson* : Peaches are about the same as last year. Grapes are doing well.

**ALABAMA.**—*Jefferson* : The increase in the culture of the grape, particularly the Scuppernong, is great in this county, and the increase of wine from the same will be at least 300 per cent. this year. *Montgomery* : Early apples and peaches ripe, very good, and the crop more abundant than last year. Grapes promising and abundant ; also strawberries and blackberries. *Winston* : Fruit not as abundant as common, but larger, and therefore quite equal to an average crop. *Calhoun* : Apples and peaches have rotted and fallen off badly. Grapes have been pierced by an insect, and are rotting. *Bullock* : Apples and peaches were injured by the late frosts.

**MISSISSIPPI.**—*Newton* : Peaches were plenty, but have rotted. *Amite* : Peach-crop nearly destroyed by a series of late frosts ; apples not injured. *Grenada* : The fruit crops all better than last year. *Lee* : Fruit crops as promising as ever seen. Peaches and apples ripe ; grapes, both cultivated and wild, are very abundant, but all the tame varieties are more or less rotting from the constant rains. *Smith* : Very late frosts and heavy hail destroyed the apples and peaches to a considerable extent. *Tishomingo* : Not many peaches ; grapes are rotting. *Wilkinson* : Peaches, grapes, and other fruits much injured by excessive rains.

**LOUISIANA.**—*Franklin* : Apples very fine and plentiful ; peaches, supply scant ; prospect good. *Morchouse* : The peach-crop very small ; apples fine ; grape-vines heavily laden with fruit ; never have seen the like either in France or in Germany.

**TEXAS.**—*Dallas* : Peaches an entire failure from frost the 25th of March. *Blanco* : Apples, pears, peaches, cherries, figs, plums, almonds, and wild grapes, all destroyed by late frost and grasshoppers. *San Saba* : All fruit entirely destroyed by late frost and grasshoppers. *Upshur* : Very late and much injured by rains in June. *Gonzales* : Fruit killed by late frosts ; peaches nearly all destroyed ; but few apples growing. *Medina* : Peach-crop damaged by the grasshoppers. *Colorado* : The frost killed the peaches. *De Witt* : Peach-trees are bending with fruit of fine size. Grapes fine. *Ellis* : The frosts killed all our fruit. *Hays* : Peaches and grapes all killed by frosts and freeze last spring. *Karnes* : Fruit crop very much injured by the late frosts. Grapes were nearly all destroyed except the variety known as the Black Spanish, which was not much affected by the frost. There is an abundant crop of the native wild-grape, (known as the Mustang,) from which excellent domestic wine is manufactured.

**ARKANSAS.**—*Franklin* : The apple-crop bids fair to be a very large one. No peaches except on very elevated situations.

**TENNESSEE.**—*Williamson* : The apple-crop is a failure. *Stewart* : Fruit nearly all killed by late frosts. *Lawrence* : Peach-crop greatly damaged by late spring frosts. *Giles* : Apples and peaches a failure, except on high points and points protected by timber, from the frost of April 26. *Meigs* : The late frosts killed almost all the fruit. *Smith* : Frost the 26th of April killed nearly all our fruit ; the little left is in



poor condition. *Bedford*: Apples and peaches a failure, except in a few localities on the hills. *Bradley*: All fruit generally cut off by a frost April 25. *Grainger*: Fruit is a failure, but on the high "knobs" we have some apples and peaches. *Serier*: Have never before seen so complete a failure of fruit. *Dickinson*: The late frost killed nearly all the apples, peaches, pears, and plums, and greatly damaged all the smaller fruit. *Humphrey*: Fruit almost a failure. *Morgan*: The heavy frost in April blighted the fruit. *Fentress*: No apples or peaches to speak of; small fruit good.

WEST VIRGINIA.—*Monroe*: Rose-bug rather troublesome on fruit-trees. *Mercer*: Apples, peaches, &c., were badly destroyed by frosts. *Pleasants*: The leaves of apple-trees are turning yellow, and the fruit dropping off. *Barbour*: Peach-crop an entire failure. *Raleigh*: Light crop of apples; very few peaches. *Boone*: Peaches winter-killed; apples look well.

KENTUCKY.—*Daveiss*: A severe freeze, late in May, did much damage to fruit in many localities; killed nearly all the grapes, but the vines put out again with a prospect of one-fourth of a crop. *Adair*: Fruit killed by frost. *Jefferson*: The only failing fruits are pears and strawberries. *Laurel*: Apples nearly all killed by late frosts; no peaches. *Butler*: Apples a total failure; peaches almost a failure. *Fayette*: Fruit generally a fair crop. *Hardin*: Apples and peaches almost an entire failure. *Taylor*: Fruit crop a failure. *Logan*: The late April frost destroyed all fruits except on a few high hills. *Owsley*: Not half a crop of apples and scarcely any peaches.

OHIO.—*Meigs*: Apples and peaches dropping off badly. *Noble*: A fair crop of apples if nothing happens. *Ross*: Peaches a failure. *Franklin*: Fruits, both tree and small, suffered by the extreme cold of last winter. *Lorain*: Grapes, winter killed. *Marion*: Grapes largely killed by the winter. *Vinton*: Owing to the frosts in April and May no fruit except grapes and a few apples. *Coshocton*: Peach-crop a total failure. *Crawford*: Peaches all killed; great bulk of grape-vines killed and crop almost nothing. *Ottawa*: Only a few scattering peaches. *Holmes*: Peaches all winter-killed; grapes and pears promise an abundant crop. *Hancock*: So large a crop of apples never known here before; they have to be knocked off in order to save the trees. *Athens*: The apple-crop almost a failure; no peaches. *Allen*: A large proportion of the grapes killed by the very cold winter.

MICHIGAN.—*Van Buren*: The severe winter nearly destroyed peaches and grapes; apples falling off. *Cass*: A pinching drought in June made havoc of the apple and strawberry crop. *Clinton*: Apple-trees badly damaged by the severe winter; many killed; apple-crop small. *Hillsdale*: Apples fair; peaches winter-killed. *Manistee*: Very few peaches; grapes look well; strawberries plenty. *Shiawassee*: But few apples; peach-trees mostly killed by the severe winter. *Tuscola*: A limited supply of fruit; no peaches. *Washtenaw*: Many peach-trees killed by the hard winter. *Benzie*: The severe winter killed many of the peach-trees. *Lapeer*: The winter killed a large part of the peach-trees, and damaged grapes. *Livingston*: Apples all drying up on the trees. *Monroe*: The exceedingly cold winter killed nearly all the peach-trees, and injured a good many grape-vines. *Newaygo*: Many trees that blossomed full have dropped all their fruit, and most of the others have but a light crop. *Antrim*: The curculio is stinging our plums.

INDIANA.—*Ripley*: No apples; no peaches, and the grape-vines were badly damaged in the winter; strawberries, also, damaged very much. *Shelby*: Apples falling off continually; have not heard of a peach in the county; at least 50 per cent. of the trees killed by the winter. *Dubois*: Peach-crop very short and falling off the trees. *Kosciusko*: Peach-trees nearly all winter-killed. *Floyd*: Peaches very plenteous in some localities, and in some none. *Hamilton*: Peaches all killed, and the trees a good deal injured; a large per cent. of the grape-vines were killed. *Newton*: The unprecedented winter did considerable damage to fruit-trees and grape-vines. *Pike*: Peaches in good condition, but the quantity not more than 20 per cent. *Franklin*: Apples dropped off badly; not many left; no peach-blossoms; trees injured by winter; general failure in fruits. *Howard*: Fruit a partial failure. *Morgan*: Apples amount to but little; peaches to nothing; grape-vines nearly all winter-killed.

ILLINOIS.—*Morgan*: Fruit nearly an entire failure. *Bureau*: Apples average in condition, but not over one-fourth of a crop in quantity; a tenth of the trees killed or badly injured by the winter. *Madison*: Summer apples a full average; winter apples not half a crop. No peaches. *Sangamon*: Fruit crop very light; grapes mostly frozen to the ground, but making fine growth for next year. *Champaign*: Peach-trees nearly all killed; apple and pear trees badly injured. *Clark*: The apple, pear, cherry, and plum crop nearly all blasted. Peach-trees badly winter-killed. *Jersey*: Peaches and small fruits a failure; apples and pears knotty and wormy; Concord grape-vines heavy bunches; other kinds a failure. *Washington*: Apples more than half stung by the curculio; falling off. Peaches all killed by the hard winter; trees nearly all killed. *Winnibago*: Canker-worm destroying nearly one-third of the orchards in this vicinity. *Whiteside*: Indications are that the apple-worm will bring the crop down to one-fourth. Strawberries pretty much winter-killed. *Carroll*: The past winter very destructive to fruit-trees. *Clinton*: Eight-tenths of the peach-trees dead, and one-tenth of the apple-trees

dead or dying from the effects of last winter. *De Witt* : Apples average in condition, but lamentably deficient in quantity ; also grapes, *Effingham* : Apples have dropped off ; no peaches ; over one-half of the trees winter-killed. *Fulton* : No peaches ; apples almost an entire failure. *Hancock* : Peach-trees and some apple-trees badly injured by the winter ; tender kinds of grapes killed. *Knox* : The apple-crop a total failure ; many trees dying from the effects of the winter. *Lawrence* : The apples have nearly all fallen off. No peaches ; trees nearly all killed. *Macon* : Grapes few—the Catawba the only kind that has any. *Moultrie* : Apples a failure. *Putnam* : Apple-trees very much injured by the winter ; many dead, and more will die. *Tazewell* : Peach-trees mostly killed by the winter, and apple-trees badly injured ; many will die. *Vermilion* : Bearing peach-trees nearly all winter-killed, and apple and cherry-trees considerably injured. *Warren* : Last winter injured fruit-trees of all kinds, killing many apple, pear, plum, and sweet-cherry trees. All tender varieties of grape-vines, with a part of the Concord, suffered to some extent. In orchards of 500 trees, not an apple to be found, though the bloom was fuller than usual. *White* : Apples and peaches dropping off badly. *Boone* : Apples not affected by canker-worms doing well, but many orchards are being denuded. *Edwards* : The tent-caterpillar has riddled many orchards, and a terrible hail-storm completed the destruction. No peaches. *Massac* : Apples and peaches somewhat injured by the cold last spring. *Ogle* : Most of the apples have fallen off. Some of the fruit-trees, and the tender varieties of grape-vines, were killed or injured last winter. Raspberries that were mulched are doing well. *Mercer* : The heavy bloom of fruit-trees will result in but a small crop. *Franklin* : Apples dropping off very much. Peaches nearly a total failure. The winter caused much damage to the grape-vines.

WISCONSIN.—*Clark* : Apples, grapes, and strawberries injured by cold winter and hard frosts in May. *Washington* : Five per cent. of the apple and pear trees dying ; the trees blossomed out beautifully ; three weeks after, they looked in a sickly condition, and now the leaves and fruit are drying up. *Brown* : The bloom of apples was very profuse, but a cold night during the blooming season seems to have destroyed much of the fruit. *Richland* : Apple-orchards winter-killed ; look very bad ; grape-vines badly winter-killed. *Walworth* : Fruit comparatively a failure. *Dodge* : The frost in May nearly destroyed all the apples, pears, and strawberries ; will not be more than one-tenth of a crop. *Vernon* : Apples a failure ; the bloom deceptive, and over half the trees dead or injured. *Callumet* : Peach-trees nearly all killed, and other fruit-trees and grape-vines injured very much, last winter.

MINNESOTA.—*Mower* : Fifty per cent. of the apple-trees and grape-vines were killed. *Douglas* : The last winter injured young orchards and killed some entirely, leaving only the crab species uninjured. *Isanti* : The extreme cold of the winter did immense damage to our young orchards. *Olsted* : The severe winter destroyed many kinds of standard-fruit trees, supposed to be quite hardy, and a large amount of small fruit. *Ramsey* : The winter killed a large portion of the apples, pears, peaches, and plums. *Goodhue* : Apple-trees, with few exceptions, very much injured by successive freezings ; many bearing-trees ruined ; grapes have suffered from the same cause.

IOWA.—*Clarke* : The yield of fruit promises to be extraordinary. *Lyons* : From 5 to 10 per cent. of the bearing apple-trees killed last winter ; most of the trees that are now dead blossomed and threw out leaves ; peach-trees all killed ; 50 per cent. of the plum-trees ; 10 per cent. of the grape-vines. *Guthrie* : Grapes winter-killed, more than I ever knew them ; even Concord, both old and young, killed to the ground ; apples bloomed wonderfully, but the hard winter destroyed a great many. *Harrison* : Apples succeeded well, and are planted in large amount each year. *Delaware* : Fruit generally fair considering the damage done last winter. *Floyd* : Apples almost a failure ; many trees killed. *Hardin* : About 20 per cent. of the fruit-trees and grape-vines killed by the winter. *Louisa* : Last winter greatly injured the fruit-trees ; old trees suffered the most. *Marshall* : About 15 per cent. of large bearing apple-trees died after blooming. *Taylor* : Peaches almost played out ; quite a number of trees killed, and others badly injured. *Des Moines* : Bearing peach-trees killed last winter ; apple-trees badly damaged ; next to no crop. *Monona* : Apples and grapes reduced by the severe winter. *Muscatine* : All kinds of fruit manifesting the bad effects of last winter. *Jasper* : Past winter very severe on fruit-trees and grape-vines ; 50 per cent. of the apple-trees and grape-vines killed, and more of the pear-trees. *Tama* : Grape-vines injured by winter ; many two-year-old Concord killed ; pear-trees and many apple-trees dead, and others injured.

MISSOURI.—*Gasconade* : Peaches on the low land were nearly all killed last winter. *Platte* : The apple-bloom was very heavy, but most of the young apples are fallen off ; not more than a fourth of a crop. Many of the trees dying ; the decay commences on the south side of the tree. *Cass* : Peaches an entire failure. *Caldwell* : Peach-trees and grape-vines badly frozen and killed on low ground. *Barton* : Fruit of all kind a total failure on account of the cold last winter. *Cole* : Apples below average in quantity ; no peaches ; grapes doing well, the Concord and similar varieties promising a full yield. *Taney* : Almost all peach-trees killed. *Adair* : All the old peach-trees



killed; the young trees doing well, but no fruit. *Bollinger*: Apples and peaches good but scarce; most of the peach-crop killed by the freeze. Grapes good, though there is some rot, owing to an insect, I think. *De Kalb*: Peaches killed last winter. *Holt*: The largest bloom of apples is resulting in the poorest crop ever known; a blight in the twigs or ends of the limbs, and insects or worms in the young fruit. Unless we do something to encourage birds our fruits will fail; we have very few birds, and no law to protect them. *Lawrence*: Peach-crop all killed, and apples damaged greatly. *Lincoln*: Apples are falling and have been all the season. *Moniteau*: Peach-trees, to a large extent, killed; no fruit. *Catawba* grape-vines killed; other kinds injured, but will make a partial crop. *Pulaski*: Peaches totally winter-killed; nearly all the old trees killed; the young trees uninjured. Grape-vines growing vigorously, but not so much fruit as last year. *Saint Clair*: The blight very extensive this year, particularly in young orchards. *Worth*: Peaches a failure; all killed in the winter. *Clay*: Peaches an entire failure, and apples and other fruit nearly so. Grapes injured by the freeze, the Concord alone sustaining the estimate for the crop. *Howard*: Peach-trees all killed, except those one or two years old. Grape-vines, except Concord, all killed to the ground. *Jefferson*: Peaches an entire failure; many orchards killed, and have been cut down. Pears blighted and nearly a failure. The blight has just struck the vineyards, and the crop is much injured. *Phelps*: Peaches all killed; apples only three-fourths of a crop and some wormy. Grapes rotting from warm, wet weather. *Dale*: No peaches. *Callaway*: Peach-trees nearly all killed, and other fruit-trees and grape-vines injured very much.

**KANSAS.**—*Shawnee*: A species of blight has attacked the apple-trees in the western part of this county, killing to the ground whole orchards of bearing-trees. *Douglas*: A terrible blight has again appeared among our apple-orchards, killing very many trees from fifteen down to three years old in nurseries. The blight acts precisely like the pear-blight. *Wyandotte*: Peach-crop an entire failure; probably one-half an apple-crop. When in bloom the trees were injured by some insect—many branches being killed, and in some instances the trees—resembling the blight in pear-trees. *Coffey*: Apples and peaches which promised a full half crop in May have cast the fruit until there will be but little more than one-fourth crop. *Morris*: In May a furious hail-storm (some of the stones weighing three ounces) injured fruit very badly. *Nemaha*: A blight on the peach-trees—"curled leaf"—is damaging all the orchards in the county. Apple-trees have done badly; much of the fruit falling off the last two weeks. *Woodson*: The apple-crop will be very light, owing to a severe storm that seemed to blast them in the bloom. *Linn*: Grapes not winter-killed are looking well. Clintons not injured by winter, and Concord not much; but rose-bugs are eating them up. *Labette*: Not any apples or peaches; killed by the frost. *Logan*: Apples in condition are equal to last year, but in quantity only one-fourth. *Miami*: Young trees doing uncommonly well; have never seen such growth. *Osage*: Peaches all destroyed by winter freeze. *Ripley*: Apples and peaches very scarce; a great many old peach-trees killed. *Washington*: Peach-trees were not killed in this county last winter, and there are peaches wherever there are trees old enough.

**NEBRASKA.**—*Merrick*: A fearful snow-storm in the middle of April ruined a great many fruit-trees.

**CALIFORNIA.**—*Sonoma*: The fruit and grape crops will be better than was expected. *Butte*: First grape-blossoms were cut down; second blossoms, nearly as good as the first, put forth and promise well as such. *Sacramento*: Fruit-crop injured by late severe frosts; on same localities the peach-trees and crop are injured from the effects of mildew of the foliage. *San Luis*: May frosts destroyed half of our fruit, but that left appears to be of superior quality. *Mendocino*: Our fruit-crop is short, owing to late frosts, except grapes, which promise a large yield. *Tuolumne*: The heavy frosts in April and May injured fruit of all kinds; apricots and walnuts were almost entirely cut off; cherries, strawberries, and peaches, about one-half. *San Bernardino*: The peaches and grapes have been affected by late frosts. *Klamath*: The grapes were seriously injured by frost.

**OREGON.**—*Lane*: Fruit in general looks much better than last year. *Clackamas*: Apples and peaches rather below average on account of late frosts. Strawberries, cherries, cherry-currants, and the Lawton blackberry do well in this county. *Clatsop*: Small fruits, both cultivated and wild, abound. *Douglas*: The peach-crop was injured by the late frost.

**UTAH.**—*Utah*: The cold rains and frosts in May and the beginning of June killed the early peaches. *Iron*: Frost, June 6, killed apple, pear, and peach blooms. Strawberries blighted badly. Heavy crop of English gooseberries, and red Dutch currants. *Washington*: Fruit-crop short owing to late frosts.



## POTATOES.

An increased acreage in potatoes is noted in Vermont, Connecticut, Virginia, South Carolina, Georgia, Florida, Alabama, Arkansas, Tennessee, Kentucky, Wisconsin, Missouri, Kansas, Nebraska, and Oregon. The acreage remains the same as last year in Massachusetts, Rhode Island, New York, North Carolina, Mississippi, Indiana, and Minnesota. The remaining States showed a decreased acreage. The maximum acreage is found in Nebraska, 121; and the minimum in Delaware, 86. The potato-bug extended its ravages in the Eastern States, while in many points in the West its injuries were quite severe. Fear of this insect in many cases induced the cultivation of smaller crops. A condition above average is reported in Georgia, Florida, Alabama, Mississippi, Arkansas, Tennessee, and Missouri. In Wisconsin the condition was full average, and in all the other States below. The maximum, 111, is found in Georgia; the minimum, 76, in Delaware.

NEW HAMPSHIRE.—*Cheshire*: Early potatoes suffering from drought. *Carroll*: Will be a good crop if the rain comes.

MASSACHUSETTS.—*Dukes*: Suffering very much from drought. *Norfolk*: Late-planted crops backward. *Plymouth*: Early-planted crops have suffered severely.

NEW YORK.—*Wyoming*: Potatoes looking well; Colorado bug has just appeared. *Chautauqua*: Potato-bugs injurious. *Kings*: Crop not so good as last year.

NEW JERSEY.—*Morris*: Shortened by drought, but improved by late rains. *Burlington*: Somewhat injured on high lands; look well on heavy lands.

PENNSYLVANIA.—*Montgomery*: Early potatoes shortened by drought. *Huntington*: Colorado bugs at work; early plantings injured and later ones threatened. *Fayette*: Seriously injured by Colorado bugs. *Elk*: Late Rose, as well as all other varieties, attacked by the bug. *Beaver*: Colorado bug very injurious. *Snyder*: Colorado bug at work. *Cambria*: Colorado beetle on hand as soon as the crop was up. *Butler*: Considerably injured by bugs. *Pike*: Average yield 150 bushels per acre. *McKean*: Bugs. *Forest*: Bugs bad; many save their crops by destroying them. *Crawford*: Bugs for the first time. *Jefferson*: Greatly injured by bugs.

MARYLAND.—*Dorchester*: Early potatoes injured by drought.

VIRGINIA.—*Warwick*: Yield and price good. *Chesterfield*: Large yield of small tubers. *Princess Anne*: Potatoes sold in Norfolk at \$6 per barrel. *Nansemond*: Early crop not promising; later plantings better. *Northampton*: Potato-culture successful.

DELAWARE.—*Kent*: Late plantings delayed by drought.

NORTH CAROLINA.—*Moore*: Seriously damaged by drought.

SOUTH CAROLINA.—*Greenville*: Peruvian potatoes ran to tops and took a second growth.

ALABAMA.—*Montgomery*: Unusually fine. *Winston*: Benefited by rain. *Marshall*: Never better. *Bullock*: Full average and better than usual.

MISSISSIPPI.—*Tishomingo*: Remarkably fine.

TEXAS.—*Gonzales*: Nearly destroyed by frost. *Fayette*: Almost a failure by late frosts. *De Witt*: Marketed in May. *Austin*: Early Rose has done well.

TENNESSEE.—*Morgan*: Injured by wet.

WEST VIRGINIA.— *Raleigh*: Fine. *Kanawha*: Seriously injured by bugs; where the bugs have been destroyed crops are good; sprinkled lime a good preventive. *Dodridge*: Cut short by potato-bugs in some localities. *Cabell*: Early potatoes seriously injured by the Colorado beetle. *Marion*: Some crops not properly attended to have been swept by the Colorado beetle. *Pocahontas*: Fair condition.

KENTUCKY.—*Anderson*: Crop promising.

OHIO.—*Portage*: Increased acreage. *Morrow*: Crop reduced one-half by Colorado bugs. *Franklin*: Reduced 20 per cent. by Colorado bugs. *Trumbull*: The whole crop threatened by Colorado bugs. *Meigs*: Potato-planting reduced by fear of bugs.

MICHIGAN.—*Antrim*: Plenty of bugs, but farmers have the inside track. *Monroe*: Potato-bugs less numerous than last year. *Lapeer*: Potato-bugs very destructive; Paris green and other remedies successful where used. *Benzie*: Potato-bugs very few. *Tuscola*: Fewer potato-bugs. *Shiawassee*: Potato-bugs less annoying than formerly. *Mason*: Bugs plenty and active. *Manistee*: Potato-bugs require constant efforts for their destruction. *Hillsdale*: Bugs less numerous than last year. *Ionia*: Shortened by drought. *Calhoun*: Shortened by drought. *Branch*: Crops look well; bugs abundant.

INDIANA.—*Howard*: Doing well; lady-bugs killing off the potato-beetles. *Franklin*: Look well; fewer bugs than formerly. *Martin*: Colorado bugs numerous. *Marshall*:

Damaged by bugs. *La Porte*: Colorado bugs lively. *Harrison*: Look well. *Orange*: Bugs more successfully resisted than formerly. *Ripley*: Early potatoes ruined by drought. *Scott*: Fine; no bugs to hurt. *Ogle*: Suffering from bugs. *Massac*: Crops declining through drought and bugs for two years.

ILLINOIS.—*Stephenson*: Bugs less troublesome than formerly. *Montgomery*: Early potatoes a larger crop than for years. *Lake*: Bugs very destructive. *Winnebago*: Bugs numerous. *Sangamon*: Badly need rain. *Madison*: Bugs not numerous; picked from the vines. *Bureau*: Bugs determined to have the crop.

WISCONSIN.—*Juneau*: Bugs persistent and destructive. *Clarke*: Bugs troublesome. *Columbia*: Bugs numerous and destructive. *Milwaukee*: Late planted but fine. *Portage*: Looking well in spite of the bugs. *Ozaukee*: Bugs lively but easily destroyed. *Brown*: Abundant, but the rains help the vines to grow well in spite of them.

MINNESOTA.—*Renville*: Bugs less numerous. *Isanti*: Growing well, but the bug is destructive; Paris green a very effective remedy. *Wright*: Nearly all destroyed by the bugs. *Nicollet*: Affected by continual wet weather.

IOWA.—*Lee*: Late potatoes promise a fine crop. *Harrison*: Production decreasing on account of low prices.

MISSOURI.—*Phelps*: Look finely. *Ozark*: Look fine. *Bollinger*: Early-planted good. *Cass*: Extra.

KANSAS.—*Bourbon*: Seriously injured by chinch-bugs. *Butler*: Late potatoes suffering.

NEBRASKA.—*Jefferson*: Extra good. *Dixon*: Bugs early and plenty.

CALIFORNIA.—*Sacramento*: Shortened by drought and frost; in some localities completely ruined.

OREGON.—*Columbia*: A severe frost, June 23, killed potato-vines. *Clackamas*: Injured by late rains.

DAKOTA.—*Clay*: Bugs in some localities. *Sioux Falls*: Look well in spite of potato-bugs.

WASHINGTON.—*King*: Season unfavorable for potatoes.

## SWEET-POTATOES.

An increased acreage in sweet-potatoes is reported in Georgia, Florida, Alabama, Mississippi, Louisiana, Texas, West Virginia, Michigan, Iowa, and Kansas; in South Carolina the acreage remains the same as last year, and shows a decrease in all the other States, no crops being reported in New England, New York, Wisconsin, and Minnesota. The condition of the crop was full average or above in Georgia, Alabama, Florida, Mississippi, Texas, Arkansas, and Tennessee; it was below average in all the other States. The maximum, 108, was in Florida; the minimum, 76, was in New Jersey.

FLORIDA.—*Jackson*: Sweet-potatoes fine; late growing rains.

VIRGINIA.—*Pittsylvania*: Late planted, and show but little results as yet.

ALABAMA.—*Montgomery*: Promising. *Genera*: Good.

NEW JERSEY.—*Burlington*: Plants badly killed by hot weather after setting out.

TEXAS.—*De Witt*: Increased area planted. *Karnes*: Promising.

IOWA.—*Harrison*: Culture increasing.

## SUGAR-CANE.

An increased acreage was planted in Georgia, Florida, Alabama, and Mississippi, and a decreased acreage in Texas and Louisiana. The increase in Alabama amounted to 15 per cent. The crop was above average in Georgia, Alabama, and Mississippi, and below average in the other States. The growth of sugar-cane is reported in 75 counties, of which 1 was in South Carolina, 19 in Georgia, 10 in Alabama, 7 in Mississippi, 10 in Louisiana, and 16 in Texas.

ALABAMA.—*Genera*: Crop never better. *Bullock*: Increased acreage planted; crop better than usual, promising a large quantity of fine sirup and sugar.

FLORIDA.—*Hillsborough*: Some crops a complete failure; their deficiency of yield made good by increased acreage.

MISSISSIPPI.—Louisiana sugar-cane largely grown here; 15,000 gallons of molasses made last year in this locality, besides a considerable quantity of sugar.

LOUISIANA.—Plant cane very good. *Lafourche*: Plant cane a good stand but behind-hand. *Rapides*: Stubble cane killed again and but little seed planted; the latter very good. *St. Mary*: Sugar-cane has resisted the rain better than the corn.

## SORGHUM.

Few of our correspondents make any notes upon sorghum, and those who do generally concur in representing that the cultivation of it is on the decline. The only exception noticed is in Texas, where, in De Witt County, "the sorghum-crop is increasing and is really a profitable crop." In West Virginia, Doddridge County, it "has been a failure for the last year or two on account of rust; very little planted this year;" in Jefferson County it "has pretty much gone out of cultivation." In Osage County, Kansas, it has "nearly gone out of use;" in Washington County, Ohio, it is "nearly abandoned;" in Washington County, Illinois, "the cultivation of sorghum is almost entirely suspended;" and in Renville County, Minnesota, "that crop will be a failure." In the twenty-three States which report its acreage and condition by figures, the acreage is less than last year, in all except Texas, (in which it is 9 per cent. greater,) the range being between 63 in North Carolina and 96 in Arkansas and Nebraska. In Virginia, in which the average is 13 per cent. less than last year, the condition is 6 per cent. above average. In Wisconsin, in which the acreage is 88, the condition is 102; in Georgia the acreage is 79 and the condition is 100. In the other States reporting, the condition ranges from 82 in Maryland to 98 in Arkansas. In North Carolina, Texas, and Tennessee, it is 97.

## BEANS.

In Massachusetts, Rhode Island, Delaware, Mississippi, and Michigan, the acreage in beans is reported the same as last year. The States in which it is increased are Maine, New York, Maryland, Alabama, West Virginia, and Ohio, 102; Connecticut and Texas, 101; Georgia, 103; Florida, 113; Arkansas and Oregon, 105; Minnesota, 107; Kansas, 111; Nebraska, 109. In the remaining States the range is between 90 in Vermont and 99 in South Carolina and Wisconsin. In condition, Rhode Island and Michigan are average; South Carolina, 102; Georgia, 105; Florida, 118; Alabama, 107; Mississippi, Tennessee, and Oregon, 106; Arkansas, 103. The condition in the remaining States ranges between 80 in Delaware and 99 in North Carolina and Wisconsin.

## TOBACCO.

An increased acreage was planted in Virginia, Texas, West Virginia, Kentucky, Indiana, Missouri, Kansas, and Nebraska. Arkansas and Tennessee return the same acreage as last year, while a decrease is reported in New Hampshire, Massachusetts, Connecticut, New York, Pennsylvania, Maryland, North Carolina, Georgia, Alabama, Ohio, and Illinois. The crop was full average or above in Alabama, Arkansas, Indiana, Illinois, Missouri, and Kansas. In all the other States reported it was below average. The maximum, 102, was in Alabama; the minimum, 76, in Massachusetts.

CONNECTICUT.—*New Haven*: Impossible to make the plants live.

VIRGINIA.—*Spottsylvania*: Crop increasing. *King William*: Low prices of grain have stimulated tobacco culture. *Bedford*: Tobacco culture retarded by rains. *Fluvanna*: Tobacco-plants plenty and planting season good. *Lunenburg*: Acreage full average, but late planting, &c., will bring the condition below average. *Prince Edward*: Planting delayed; increased acreage. *Orange*: Good stand. *Caroline*: Season favorable. *Powhatan*: Good. *Pittsylvania*: Culture increasing. *Sussex*: Improved condition due to free use of fertilizers. *Mecklenburg*: Starting well. *Halifax*: Poor stand; injured by drought; decreased acreage. *Essex*: Failed to secure a stand.

NORTH CAROLINA.—*Parsons*: Very bad condition.



MARYLAND.—*Howard*: Planting delayed by rain. *Calvert*: Severely injured by drought; but one-sixth of a crop standing.

TENNESSEE.—*Stewart*: Good time to set plants. *Truesdale*: Not in first-rate condition; too wet for cultivation. *Robertson*: Bad condition.

KENTUCKY.—*Logan*: Culture increased on account of the establishment of a large warehouse. *Henry*: Too late planted for a good crop. *Carroll*: Late planted. *Adair*: Increased acreage; promising. *Darviss*: Unprecedented acreage planted.

INDIANA.—*Brown*: Acreage increased 10 to 15 per cent.; fine planting season.

WISCONSIN.—*Dane*: Low prices have restricted the cultivation of tobacco. *Walworth*: Growers discouraged by frosts and low prices.

MISSOURI.—*Ozark*: Looks fine. *Cedar*: Tobacco-growing greatly on the increase; we produce an article equal to Virginia's best. *Holt*: Largely increased acreage. *Chariton*: Early planted looks well.

OREGON.—*Clackamas*: Rather cool.

## WOOL.

The wool-clip was full average or above in Maine, Vermont, New Jersey, Delaware, South Carolina, Georgia, Florida, West Virginia, Ohio, Michigan, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kansas, Nebraska, California, and Oregon; it was below average in all the other States. The maximum, 127, was found in Oregon, the minimum, 92, in Tennessee.

NORTH CAROLINA.—*Iredell*: Average clip. *Floyd*: Wool interest falling off; too many dogs.

GEORGIA.—*Wilkinson*: Wool-raising a failure on account of worthless dogs.

TEXAS.—*De Witt*: Wool production increasing.

KENTUCKY.—*Carroll*: Fall of prices has induced farmers to hold over for a better market.

OHIO.—*Washington*: Held above present offers. *Medina*: Wool-clips lighter than usual, but the increased number of sheep will bring the aggregate clip to a full average.

INDIANA.—*Owen*: Clip short; sheep sold close last fall.

ILLINOIS.—*Boone*: Clip less than last year.

WISCONSIN.—*Walworth*: Clip full average and fully up to last year, despite declining prices.

MISSOURI.—*Phelps*: Clip short.

CALIFORNIA.—Clip short in staple. *Mendocino*: Clip largely increasing. *Amador*: Wool-clip increasing; flocks larger.

Table showing the condition of the crops, &amp;c., on the 1st day of July, 1873.

| States.             | CORN.                            |                           | WHEAT.                                    |   | RYE.                                    |   | OATS.                     |                           | BARLEY.                                    |  | PASTURE.                  | CLOVER.                   | TIMOTHY.                  | POTATOES (Solanum tuberosum.)    |                           | POTATOES (Lathyrus sativus.)     |                           |
|---------------------|----------------------------------|---------------------------|---|---|---|---|---------------------------|---------------------------|--|--|---------------------------|---------------------------|---------------------------|----------------------------------|---------------------------|----------------------------------|---------------------------|
|                     | Average compared with last year. | Average condition July 1. | Average condition of winter wheat July 1. | Average condition of spring wheat July 1. | Average condition of winter rye July 1. | Average condition of spring rye July 1. | Average condition July 1. | Average condition July 1. | Average condition of winter barley July 1. | Average condition of spring barley July 1. | Average condition July 1. | Average condition July 1. | Average condition July 1. | Average compared with last year. | Average condition July 1. | Average compared with last year. | Average condition July 1. |
| Maine.....          | 96                               | 78                        |   |   | 96                                      | 90                                      | 82                        |                           | 91   | 87   | 91                        | 90                        | 84                        | 76                               | 84                        | 76                               | 84                        |
| New Hampshire.....  | 95                               | 82                        | 87  | 85  | 95                                      | 95                                      | 84                        |                           | 91   | 84   | 92                        | 97                        | 90                        | 96                               | 90                        | 96                               | 90                        |
| Vermont.....        | 94                               | 76                        | 90  | 88  | 97                                      | 94                                      | 79                        |                           | 84   | 77   | 93                        | 79                        | 77                        | 101                              | 91                        | 94                               | 91                        |
| Massachusetts.....  | 92                               | 84                        | 100                                       | 96  | 100                                     | 100                                     | 88                        |                           | 88   | 85   | 95                        | 87                        | 76                        | 100                              | 95                        | 100                              | 95                        |
| Rhode Island.....   | 92                               | 82                        |   |   | 100                                     | 100                                     | 88                        |                           | 88   | 85   | 95                        | 87                        | 76                        | 100                              | 95                        | 100                              | 95                        |
| Connecticut.....    | 99                               | 77                        | 97  | 82  | 100                                     | 92                                      | 80                        |                           | 72   | 74   | 95                        | 72                        | 67                        | 102                              | 84                        | 100                              | 84                        |
| New York.....       | 96                               | 76                        | 92  | 80  | 103                                     | 79                                      | 69                        |                           | 92   | 85   | 78                        | 70                        | 75                        | 95                               | 76                        | 93                               | 76                        |
| New Jersey.....     | 95                               | 88                        | 98  | 84  | 98                                      | 92                                      | 67                        |                           | 92   | 85   | 75                        | 67                        | 67                        | 95                               | 76                        | 93                               | 76                        |
| Pennsylvania.....   | 96                               | 80                        | 99  | 98  | 103                                     | 92                                      | 76                        |                           | 92   | 85   | 75                        | 70                        | 67                        | 95                               | 76                        | 93                               | 76                        |
| Delaware.....       | 95                               | 84                        | 101                                       |   | 98                                      | 92                                      | 76                        |                           | 92   | 85   | 75                        | 67                        | 67                        | 95                               | 76                        | 93                               | 76                        |
| Maryland.....       | 97                               | 84                        | 98  |   | 103                                     | 92                                      | 76                        |                           | 92   | 85   | 75                        | 67                        | 67                        | 95                               | 76                        | 93                               | 76                        |
| Virginia.....       | 99                               | 96                        | 99  |   | 103                                     | 92                                      | 76                        |                           | 92   | 85   | 75                        | 67                        | 67                        | 95                               | 76                        | 93                               | 76                        |
| North Carolina..... | 96                               | 92                        | 99  | 80  | 96                                      | 93                                      | 106                       |                           | 102  | 100  | 102                       | 100                       | 104                       | 102                              | 101                       | 98                               | 94                        |
| South Carolina..... | 92                               | 77                        | 77  | 80  | 92                                      | 93                                      | 119                       |                           | 103  | 103  | 103                       | 105                       | 105                       | 102                              | 101                       | 98                               | 94                        |
| Georgia.....        | 97                               | 103                       | 85  |   | 95                                      | 116                                     | 121                       |                           | 95   | 111  | 106                       | 106                       | 105                       | 103                              | 95                        | 100                              | 92                        |
| Florida.....        | 105                              | 106                       |   |   | 91                                      | 114                                     | 114                       |                           | 104  | 104  | 101                       | 101                       | 105                       | 106                              | 106                       | 110                              | 108                       |
| Alabama.....        | 102                              | 93                        | 83  |   | 108                                     | 113                                     | 113                       |                           | 113  | 113  | 101                       | 95                        | 105                       | 106                              | 106                       | 110                              | 108                       |
| Mississippi.....    | 101                              | 96                        | 100                                       |   | 107                                     | 107                                     | 107                       |                           | 98   | 98   | 115                       | 112                       | 105                       | 107                              | 103                       | 103                              | 96                        |
| Louisiana.....      | 107                              | 85                        |   |   | 102                                     | 107                                     | 107                       |                           | 100  | 100  | 108                       | 101                       | 102                       | 106                              | 102                       | 99                               | 100                       |
| Texas.....          | 108                              | 90                        | 88  |   | 92                                      | 95                                      | 112                       |                           | 98   | 98   | 115                       | 112                       | 105                       | 107                              | 103                       | 103                              | 96                        |
| Arkansas.....       | 105                              | 101                       | 103                                       |   | 102                                     | 107                                     | 107                       |                           | 100  | 100  | 108                       | 101                       | 102                       | 106                              | 102                       | 99                               | 100                       |
| Tennessee.....      | 99                               | 99                        | 77  | 78  | 92                                      | 95                                      | 112                       |                           | 100  | 100  | 107                       | 101                       | 105                       | 106                              | 102                       | 99                               | 101                       |
| West Virginia.....  | 100                              | 96                        | 90  |   | 93                                      | 104                                     | 104                       |                           | 103  | 103  | 104                       | 102                       | 103                       | 106                              | 102                       | 99                               | 101                       |
| Kentucky.....       | 97                               | 92                        | 88  |   | 88                                      | 105                                     | 105                       |                           | 82   | 82   | 103                       | 94                        | 101                       | 101                              | 99                        | 98                               | 95                        |
| Ohio.....           | 94                               | 86                        | 100                                       | 82  | 101                                     | 92                                      | 83                        |                           | 91   | 90   | 98                        | 97                        | 93                        | 93                               | 90                        | 99                               | 94                        |
| Michigan.....       | 98                               | 90                        | 86  | 92  | 100                                     | 87                                      | 83                        |                           | 93   | 93   | 93                        | 92                        | 87                        | 98                               | 90                        | 99                               | 94                        |
| Indiana.....        | 95                               | 90                        | 91  | 78  | 94                                      | 87                                      | 83                        |                           | 90   | 71   | 105                       | 103                       | 87                        | 104                              | 100                       | 107                              | 98                        |
| Illinois.....       | 88                               | 76                        | 100                                       | 92  | 92                                      | 92                                      | 91                        |                           | 93   | 95   | 100                       | 92                        | 92                        | 100                              | 96                        | 107                              | 98                        |
| Wisconsin.....      | 85                               | 79                        | 111                                       | 100                                       | 90                                      | 99                                      | 110                       |                           | 101  | 103  | 114                       | 83                        | 106                       | 101                              | 94                        | 98                               | 95                        |
| Minnesota.....      | 100                              | 90                        | 101                                       | 95  | 100                                     | 101                                     | 98                        |                           | 89   | 93   | 103                       | 85                        | 107                       | 100                              | 100                       | 92                               | 92                        |
| Iowa.....           | 101                              | 89                        | 82  | 103                                       | 101                                     | 103                                     | 93                        |                           | 85   | 93   | 103                       | 98                        | 104                       | 100                              | 96                        | 107                              | 98                        |
| Missouri.....       | 101                              | 88                        | 103                                       | 100                                       | 101                                     | 100                                     | 100                       |                           | 94   | 100  | 107                       | 100                       | 104                       | 107                              | 97                        | 109                              | 95                        |
| Kansas.....         | 115                              | 93                        | 107                                       | 105                                       | 100                                     | 100                                     | 105                       |                           | 96   | 100  | 106                       | 104                       | 106                       | 102                              | 102                       | 103                              | 97                        |
| Nebraska.....       | 111                              | 90                        | 85  | 102                                       | 103                                     | 110                                     | 102                       |                           | 97   | 97   | 109                       | 107                       | 106                       | 121                              | 98                        | 91                               | 96                        |
| California.....     | 92                               | 88                        | 89  | 70  | 90                                      | 70                                      | 86                        |                           | 88   | 88   | 85                        | 96                        | 98                        | 98                               | 93                        | 94                               | 96                        |
| Oregon.....         | 98                               | 97                        | 109                                       | 113                                       | 109                                     | 100                                     | 109                       |                           | 112  | 109  | 120                       | 106                       | 110                       | 107                              | 105                       | 103                              | 92                        |

Table showing the condition of the crops, &amp;c.—Continued.

| States.             | BEANS.                           |                           | SORGHUM.                         |                           | SUGAR-CANE, (not sorghum.)       |                           | TOBACCO.                         |                           | COTTON.                   | WOOL.   | APPLES.                   | PEACHES.                  | GRAPES.                   | STRAW-BERRIES.                   |
|---------------------|----------------------------------|---------------------------|----------------------------------|---------------------------|----------------------------------|---------------------------|----------------------------------|---------------------------|---------------------------|---|---------------------------|---------------------------|---------------------------|----------------------------------|
|                     | Average compared with last year. | Average condition July 1. | Average compared with last year. | Average condition July 1. | Average compared with last year. | Average condition July 1. | Average compared with last year. | Average condition July 1. | Average condition July 1. | Amount of wool, in hundred lbs., compared with last year. | Average condition July 1. | Average condition July 1. | Average condition July 1. | Product compared with last year. |
| Maine.....          | 102                              | 93                        |                                  |                           |                                  |                           |                                  |                           |                           | 103   | 75                        |                           |                           | 82                               |
| New Hampshire.....  | 98                               | 95                        |                                  |                           |                                  |                           | 95                               | 85                        |                           | 97  | 77                        |                           | 96                        | 91                               |
| Vermont.....        | 90                               | 84                        |                                  |                           |                                  |                           |                                  |                           |                           | 101   | 86                        | 67                        | 73                        | 80                               |
| Massachusetts.....  | 100                              | 91                        |                                  |                           |                                  |                           | 95                               | 76                        |                           | 96  | 88                        |                           | 93                        | 74                               |
| Rhode Island.....   | 100                              | 100                       |                                  |                           |                                  |                           |                                  |                           |                           | 95  | 86                        | 98                        | 103                       | 73                               |
| Connecticut.....    | 101                              | 93                        |                                  |                           |                                  |                           | 93                               | 81                        |                           | 99  | 58                        | 48                        | 94                        | 85                               |
| New York.....       | 102                              | 86                        |                                  |                           |                                  |                           | 95                               | 85                        |                           | 102   | 76                        | 70                        | 91                        | 77                               |
| New Jersey.....     | 93                               | 83                        |                                  |                           |                                  |                           |                                  |                           |                           | 97  | 71                        | 35                        | 90                        | 81                               |
| Pennsylvania.....   | 97                               | 93                        |                                  |                           |                                  |                           | 97                               | 81                        |                           | 97  | 71                        | 35                        | 90                        | 85                               |
| Delaware.....       | 100                              | 80                        | 87                               | 90                        |                                  |                           |                                  |                           |                           | 100   | 53                        | 88                        | 103                       | 125                              |
| Maryland.....       | 102                              | 75                        | 76                               | 82                        |                                  |                           | 79                               | 79                        |                           | 99  | 75                        | 58                        | 61                        | 104                              |
| Virginia.....       | 95                               | 98                        | 87                               | 106                       |                                  |                           | 101                              | 96                        | 103                       | 98  | 84                        | 83                        | 99                        | 98                               |
| North Carolina..... | 98                               | 99                        | 89                               | 97                        |                                  |                           | 93                               | 94                        | 91                        | 93  | 50                        | 34                        | 84                        | 77                               |
| South Carolina..... | 99                               | 102                       | 63                               | 96                        |                                  |                           |                                  |                           | 82                        | 100   | 60                        | 44                        | 60                        | 77                               |
| Georgia.....        | 103                              | 105                       | 79                               | 100                       |                                  |                           | 95                               | 97                        | 94                        | 100   | 75                        | 77                        | 90                        | 94                               |
| Florida.....        | 113                              | 118                       |                                  |                           | 104                              | 106                       |                                  |                           |                           | 104   |                           |                           |                           |                                  |
| Alabama.....        | 102                              | 107                       | 77                               | 94                        | 102                              | 99                        | 91                               | 102                       | 75                        | 96  | 80                        | 78                        | 78                        | 104                              |
| Mississippi.....    | 100                              | 106                       | 90                               | 95                        | 103                              | 104                       |                                  |                           | 83                        | 99  | 95                        | 88                        | 95                        | 101                              |
| Louisiana.....      |                                  |                           | 89                               | 95                        |                                  |                           |                                  |                           | 80                        | 95  | 93                        | 68                        | 97                        | 80                               |
| Texas.....          | 101                              | 95                        | 109                              | 97                        | 95                               | 95                        | 104                              | 88                        | 78                        | 95  | 70                        | 66                        | 83                        | 90                               |
| Arkansas.....       | 105                              | 103                       | 96                               | 98                        |                                  |                           | 100                              | 101                       | 106                       | 93  | 66                        | 65                        | 90                        | 100                              |
| Tennessee.....      | 110                              | 106                       | 91                               | 97                        |                                  |                           | 100                              | 97                        | 96                        | 92  | 36                        | 33                        | 77                        | 73                               |
| West Virginia.....  | 102                              | 101                       | 90                               | 93                        |                                  |                           | 103                              | 98                        |                           | 101   | 77                        | 56                        | 100                       | 88                               |
| Kentucky.....       | 97                               | 98                        | 89                               | 90                        |                                  |                           | 103                              | 93                        |                           | 99  | 56                        | 56                        | 93                        | 72                               |
| Ohio.....           | 102                              | 96                        | 84                               | 89                        |                                  |                           | 88                               | 88                        |                           | 100   | 76                        | 26                        | 62                        | 83                               |
| Michigan.....       | 100                              | 100                       | 86                               | 88                        |                                  |                           |                                  |                           |                           | 101   | 90                        | 45                        | 85                        | 79                               |
| Indiana.....        | 96                               | 95                        | 85                               | 91                        |                                  |                           | 106                              | 101                       |                           | 101   | 63                        | 63                        | 72                        | 82                               |
| Illinois.....       |                                  | 92                        | 82                               | 90                        |                                  |                           | 99                               | 100                       |                           | 101   | 50                        | 42                        | 61                        | 61                               |
| Wisconsin.....      | 99                               | 99                        | 88                               | 102                       |                                  |                           | 74                               | 91                        |                           | 101   | 66                        |                           | 75                        | 77                               |
| Minnesota.....      | 107                              | 92                        | 94                               | 94                        |                                  |                           |                                  |                           |                           | 105   | 75                        |                           | 88                        | 100                              |
| Iowa.....           | 97                               | 95                        | 88                               | 92                        |                                  |                           |                                  |                           |                           | 100   | 73                        |                           | 80                        | 90                               |
| Missouri.....       | 94                               | 96                        | 87                               | 95                        |                                  |                           | 110                              | 100                       | 102                       | 102   | 73                        | 48                        | 79                        | 84                               |
| Kansas.....         | 111                              | 93                        | 95                               | 96                        |                                  |                           | 105                              | 100                       |                           | 109   | 77                        | 36                        | 92                        | 106                              |
| Nebraska.....       | 109                              | 91                        | 96                               | 93                        |                                  |                           | 102                              | 95                        |                           | 110   | 97                        | 61                        | 106                       | 127                              |
| California.....     | 97                               | 90                        |                                  |                           |                                  |                           |                                  |                           |                           | 110   | 85                        | 81                        | 70                        | 96                               |
| Oregon.....         | 105                              | 106                       |                                  |                           |                                  |                           |                                  |                           |                           | 127   | 101                       | 95                        | 98                        | 113                              |



## ENTOMOLOGICAL RECORD.

BY TOWNEND GLOVER, ENTOMOLOGIST.

**INSECTS INJURING CORN.**—In the month of June Mr. J. S. Nixon, of Chambersburg, Pennsylvania, sent to the Department of Agriculture specimens of what he calls "a new enemy to the agriculturist," in the form of a small beetle, which on examination proved to be the *Systema*

Fig. 1.



*blanda* of Melsheimer. This insect is about 0.12 of an inch in length, and of a light creamy clay-color, having three longitudinal darker stripes on the wing-covers. These insects vary very much in color. Mr. Nixon writes that the beetles have nearly devastated a field of corn, eating the leaves and leaving the bare stalks standing. They hop like a flea, and when disturbed hide themselves in the soil, if they have not time to escape by flying away. They are very active and voracious, and being found in great numbers, they are very destructive to the corn-plant.

They have not attacked anything but the corn (maize) so far.

These small beetles have not hitherto been reported as injurious to any of our crops, and as they are nearly related to the cucumber or flea beetles, the same remedies used for them will apply to the *Systema blanda*.

**THE COLORADO POTATO-BEETLE.**—The much-dreaded Colorado beetle, *Doryphora decem-lineata*, has made its appearance in Maryland, specimens having been received from Mr. Onderdonk, president of the College of Saint James, Washington County, where they were injuring potatoes materially by devouring the foliage. Larvæ were also received from G. S. Dressler, Oriental post-office, Juniata County, Pennsylvania; so it appears that this destructive insect is making its way east, and next year we may expect to hear more of its ravages in Pennsylvania and Maryland.

**THE GRAPE-VINE-ROOT LOUSE.**—The roots of the grape-vines, both foreign and native, in the gardens of the Department of Agriculture, have been examined carefully for the *Phylloxera vastatrix*, or grape-vine root gall-louse, especially where the vines appeared sickly and weak, and although the grape-vine leaf gall-louse, *Pemphigus vitifoliae* of Fitch, had been extremely plentiful on two of the vines (Muscat-Hamburg and Black Prince) in the grape-house, indeed so much so as to necessitate cutting them down, yet neither on these vines nor on any others near them could a true root-louse (*Phylloxera*) or any other insect be found, either in the autumn, winter, or spring. A deep trench was also cut between a long row of grape-vines planted for experimental purposes, and the roots being exposed, were carefully examined, yet none of the destructive root-inhabiting species could be found, proving conclusively that this destructive insect has not made its appearance in our experimental grounds.

**TRAP-DOOR SPIDER.**—The Department of Agriculture has received from Mr. M. B. Wever, of Johnson's Depot, Edgefield County, South Carolina, through Mr. Charles R. Dodge, a very remarkable specimen of the nest and spider of the so-called trap-door spider. Some doubts having been expressed as to the locality of this spider, Mr. Wever writes:

I found the spider about the 1st of February (!) on an elevated piece of ground near my house, six miles east of Edgefield village, the county-seat of Edgefield County, on the head-waters of Turkey Creek, on my farm, twenty-five miles north of Augusta, Georgia, near Johnson's Depot, Charlotte, Columbia, and Augusta Railroad. I took the spider from the ground only a short time before it was shipped. It feeds only at night. A few years ago I had a mate to this. The hole was built under the pillar of my house. In visiting the nest at night I have found the spider absent on two or three occasions, but always at home during the day.

The spider sent by Mr. Wever so closely resembles, in form of nest, habits, &c., the *Oteniza nidulans*, or trap-door spider of the West Indies, described by Mr. Gosse in his *Sojourn in Jamaica*, that we doubted its having come from South Carolina, until we received Mr. Wever's interesting letter, and we shall therefore make some extracts from Mr. Gosse's account of its natural history, &c.

The spider first digs a cylindrical burrow with its jointed fangs and mandibles, from four to ten inches in depth and about an inch in diameter; the bottom is rounded, and the top, which is level with the surface of the earth, is closed by a circular lid, continuous with the tube for about a third of its circumference. This part may be called the hinge. The mouth of the tube is commonly dilated a little, so as to form a slightly-curved rim or lip; and the lid is sometimes a little convex internally, so as to fall more accurately into the mouth and close it.

Our specimen agrees in every respect excepting that the lid or trap-door is nearly circular, but with part of the circumference cut off, so as to form the hinge to the lid. The lid itself is composed of fragments of earth, spun together with a light gossamer web, and appears to be thicker where it forms the hinge to the trap-door. The spider itself never makes its appearance during the day, but must hunt for its prey at night, as several flesh-flies, put in the glass globe in which the nest is placed, invariably disappear before morning. When the lid is disturbed, the spider holds it down by means of its claws, and it is with the greatest difficulty that it can be opened, the animal exerting its whole strength, to prevent its being accomplished; but when this is effected it retreats to the bottom, whence it may be partially drawn up by placing a twig in the burrow, which the spider savagely seizes with its jaws, and may then be partially dragged into daylight. A piece of string, inserted one day under the trap-door to facilitate opening it when required, was removed by the spider and cast outside.

We have only been able to give an imperfect sketch of the nest and

Fig. 2.



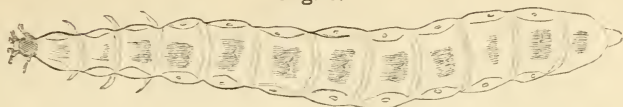
spider, as the animal could only be seen for a very short time, when momentarily dragged into view, as it almost instantaneously retreated to the bottom of its burrow as soon as brought into daylight, and we were afraid of killing it outright, if it had to be forcibly dragged from its burrow. From what was seen it appeared to be of a dark-brown color and somewhat hairy.

**LUMINOUS LARVA.**—Mr. Wever at the same time sent a large larva of a cream-color, shaded with chestnut on the back, that was very luminous, and showed a bright phosphorescent light in the rings of the body and spiracles. This light was of a pale bluish color, and so bright that it could be plainly seen in daylight, by putting it in a dark corner, or shading it with the hand. As the larvæ of *Melanaetes*, a species of *Elatér* or “snapping-



bug," are said to be luminous, it is possible that our larva belongs to the *Elateridae*. It was found in wood-earth, but died soon after it was received.

Fig. 3.



**INSECT INJURIES.**—Our statistical correspondence shows a very serious development of noxious insects during the month of June in various parts of the country. It is very desirable that the self-sacrificing gentlemen who are so faithful in securing for the Department the latest and most reliable reports of the growing crops, could be induced to give special attention to the farmer's insect enemies in their respective neighborhoods, and furnish more specific data in order that the different species may be identified and the extent of their mischievous influence estimated. In several cases new insects have been noticed, either under names of merely local significance, or by description too imperfect for identification. In these cases it would be well to forward specimens to the Department, even in the case of long known insects. This course would be desirable, as it would enable the entomologist to recognise the exact character of the insect depredators in different parts of the country, and to suggest remedies for their devastations.

*Grasshoppers.* (*Caloptenus*, sp.)—The foregoing remarks find especial application in regard to the reports of grasshoppers. There are reasons for supposing that two species, *C. spretus* and *C. femar-rubrum*, are represented in our reports. It would be impossible for any but a careful entomologist to distinguish them, and hence the propriety of sending specimens.

Only four counties east of the Mississippi notice the presence of these insects. In some localities of Carroll, New Hampshire, they are very numerous, and unless checked by rain it was feared they would do great damage to the growing crops. In Warren, Virginia, they had destroyed some of the pastures, and were making demonstrations upon oats and barley. In Jefferson, West Virginia, they appeared in great numbers; so thick, in some places, that it was possible to take them up by the shovelful. They are also reported as "thick" in Edwards County, Illinois.

West of the Mississippi their mischievous influence was felt from Texas to Minnesota, and westward to the Pacific coast. Texas had an especially severe visitation. In Medina and Bandera Counties they nearly destroyed the grain-crops, vegetables, and fruits. They were also very destructive in De Witt, Blanco, and Kendall. In San Saba, their presence delayed corn-planting till May 1. In Murray County, Minnesota, these pests appeared June 12, and ruined many late-sown crops. In Jackson they appeared in countless numbers and remained about a week, eating up the crops very clean. In Cottonwood they appeared June 15, coming from the southwest, and were very destructive, especially upon the wheat-crops, reducing the yield of the county to only a half average. At the date of the report the young were beginning to hatch. In Blue Earth they were observed coming in the same direction.

Our correspondent in Martin County leaves the condition of spring wheat and barley without note, since both are now covered with grasshoppers. These appeared in the western and southwestern parts of the



county, June 17, and twenty-four miles more easterly on the 21st. They appeared about noon, on days of sunshine, high in the air, seeming in the sunlight to be of a silvery hue. their wings light brown. At first scattering widely, the second day at noon they appear in immense numbers, filling the air even to the ground. Gardens are first attacked, onions and cabbages fall before their ravages in the beginning, and, following, all tender plants, even tobacco and wormwood; next barley and wheat, the leaves of which they strip in patches. About the fourth day, increased in numbers, they make a united attack on nearly all kinds of grain—seeming to leave corn and peas comparatively undisturbed. About the seventh or eighth day they begin to rise, and, if the sun is warm and the weather clear, leave finally about the eighth or ninth day about noon. Millions of these insects may at that time be seen flying in the air in the wind direction. They began to leave Martin County on June 29, and four or five days had elapsed before all had gone. They injured but did not destroy the wheat-crop, some pieces being left almost unmolested, while others were badly stripped. Vegetable-gardens are generally ruined. A tract of two thousand acres of beans, planted by a company consisting of three Englishmen, who broke the prairie, has been to the extent of nearly three-fourths devastated by grasshoppers.

Our correspondent in Faribault states that the insects had just reached the west line of that county, going east. They had laid their eggs in the counties westward, where they will hatch next spring, provided the conditions of incubation are not disturbed.

In Burt County, Nebraska, the young insects were hatched out in immense numbers.

In Pocahontas County, Iowa, they appeared, in the fore part of June, in an army thirty miles from front to rear, moving eastward on the ground till noon, when they took flight, flying very high. Their rear passed two weeks after their front had first appeared. They destroyed 50 per cent. of the crops. In Emmett the barley was entirely destroyed and other grains seriously damaged. Greater or less injuries are reported in Cherokee, Calhoun, and Woodbury.

In Burt County, Nebraska, the young insects were hatched out in immense numbers too late for small-grain crops, but not too late for corn. They also appeared in Boone and Dixon in large force, where they deposited their eggs and did much mischief. Our correspondent in Dixon, after careful examination, is satisfied that not over a third of the eggs deposited were hatched. They hatched out largely in Larmer County, Colorado. In San Luis Obispo, California, they were destructive on grain-crops, while in Fresno they were equally injurious to corn and cotton.

*Colorado potato-beetle, (Doryphora decem-lineata.)*—This insect is still developing eastward and northward. In New York it had appeared in four counties, viz, Wyoming, Niagara, Allegany, and Chautauqua; in the latter it was quite mischievous. Pennsylvania received a more general visitation, not less than thirteen counties reporting the presence of these pests. They were very severe in Huntington, Fayette, Beaver, Jefferson, Crawford, Forest, and McKean; less serious damages are reported in Snyder, Cambria, Butler, Cameron, and Berks. In Elk County they attacked the early-rose potatoes which had previously been exempt from their ravages. In McKean the beetles appeared May 1, and their young began to hatch out in the third week following. The ravages of this beetle constituted almost the whole of the casualties to the crops from insect enemies in this State.

Our correspondent in Union Parish, Louisiana, describes an insect feeding upon the potato, which he supposes to be a larva of the *D. decemlineata*, but his description is not sufficiently accurate to distinguish it from another species, *D. juncta*. It is a broad, stumpy worm, nearly as broad as long, head, black; color, reddish brown, with black spots extending along the sides of the body.

In Randolph, West Virginia, the beetles were quite numerous, being picked off the vines. In Braxton, Barlow, Cabell, Marion, and Morgan, they were very destructive. They were also present in Doddridge and Kanawha, in the latter of which they were making their first appearance. In many cases they were effectually resisted by the farmers. Our correspondent in Tyler speaks of a species of potato-bug but little known and very destructive. Some farmers sprinkled lime on the vines, and others turned in their chickens. He would confer a favor by sending a specimen to the Department. Six counties in Kentucky report the presence of this insect. In Spencer a third of the potato-crop was destroyed, but in Henry, Livingston, Anderson, Fayette, and Shelby, the losses were lighter. The ravages of the beetle were here successfully resisted either by sprinkling Paris green upon the vines or by shaking them off into vessels and destroying them wholesale. In Henry the lady bug (*Coccinella*) destroyed the eggs of the beetles in great numbers.

North of the Ohio River this insect is reported in every direction. In Ohio, the destruction was mostly in the northern counties, though the beetles were threatening in Highland, in the southwest. In Washington and Meigs, in the southeast, fear of the pest had greatly restricted potato-planting and hence the insect had but little to feed upon. In Morrow the crop was cut down one-half; in Franklin, 20 per cent. in spite of strenuous resistance; in Trumbull, the entire crop was threatened; in Logan, the beetles re-appeared in apparently undiminished numbers after every effort for their destruction. Great havoc is also reported in Stark; some Swiss residents of this county state that this beetle is known in Switzerland. In Mahoning, Medina, Portage, Geauga, Marion, and Noble the insect was more or less injurious. In many cases it was destroyed by persistent and intelligent efforts, and the crops substantially saved. They were destructive also in several counties of Michigan, such as Lapeer, Manistee, Mason, and Branch. In Antrim, however, "the farmers have the inside track," while the annoyance had perceptibly diminished in Mouroe, Benzie, Tuscola, Shiawassee, and Hillsdale. The beetles were very numerous in Johnson, Martin, Cass, Dubois, and Orange Counties, Indiana. In Howard, the lady-bug was efficiently destroying them. In Franklin they were less troublesome than last year. Paris-green was extensively used in some counties with varying success. Great damage was done in Mercer, Ogle, Boone, Lake, Winnebago, and Bureau Counties, Illinois, while in Stephenson, Montgomery, and Madison they were of small import. La Crosse County, Wisconsin, reports an increased number, while in Columbia, Adams, Juneau, and Clark they were very troublesome. In Portage they were very thick, but were preyed upon by other insects to an increasing extent. In Ozaukee they had lost their terrors, being easily destroyed. In Brown abundant rains enabled the vines to grow in spite of them.

In Minnesota the devastations were more severe in Ramsey, Houston, Isanti, Meeker, and Wright Counties, while in Renville they were less numerous than formerly. Our correspondent in Rock reports a new potato-bug as destructive as the striped bug. He will greatly oblige us by sending a specimen. Only three counties in Iowa—Tama, Winneshek, and Muscatine—report the presence of the Colorado beetles;



their ravages were severe in some localities. Missouri reports only a few localities in Vernon County visited by these pests. They were numerous and demonstrative in Dixon County, Nebraska, and were present in Clay, Boone, and Merrick. They were also reported in Clay, Bon Homme, and Sioux Falls Counties, Dakota.

*Cut-worms, (Agrotis, sp.)*—Different species of this genus appeared in different parts of the country. They were very destructive of corn in Niagara and Livingston Counties, New York; in Baltimore, Saint Mary's, Washington, Howard, and Frederick Counties, Maryland; Clarke, Southampton, and Alexandria, Virginia; Marshall, Alabama; Washington and Knox, Tennessee; Jefferson, West Virginia; Tuscola and Gratiot, Michigan; Huntington, Indiana; Washington, Illinois; and Wahsatch, Utah.

*Grub-worms, (Lachnosterna, sp.)*—Grub-worms injured different crops in Fayette County, Pennsylvania; Montgomery and Kent, Maryland; and Mercer, West Virginia.

*Hessian fly, (Cecidomyia destructor.)*—This insect cut down the wheat crop one-half on limestone lands in Fulton County, Pennsylvania. It also appeared in Washington County, Maryland, and in Orange, Loudoun, Halifax, and Clarke, Virginia; in the last-named county it was very destructive, some farmers turning their animals to graze upon the remains of the wheat-crop. It is reported in Hardy, West Virginia; Russell, Kentucky; Franklin, La Porte, and Decatur, Indiana; and Wright, Missouri.

*Grass army-worm, (Lucania unipuncta.)*—The farmers of Northumberland County, Virginia, mowed somewhat prematurely in order to save their grass from the army-worm. This insect was destructive in Dubois, Indiana; Franklin, Perry, Edwards, Illinois.

*Chinch-bug, (Micropus [Rhyparo chromus] leucopterus.)*—Chinch-bugs injured wheat, corn, and oats to a serious extent, especially west of the Mississippi River. The only county east of the Alleghanies infested with them was Halifax, Virginia. They were troublesome in Hardy, West Virginia; Russell, Kentucky; Putnam, Indiana; Cass, Scott, and Marion, Illinois; Wright, Vernon, Phelps, Cedar, Reynolds, Ralls, Lawrence, Jasper, Boone, Bates, Benton, and Henry, Missouri; Howard, Wilson, Neosho, Labette, Cherokee, Bourbon, and Woodson, Kansas. In Labette County our correspondent saw stalks of corn free from bugs in the morning, but covered two or three deep on the evening of the same day to the height of eight or ten inches from the ground. In a few days such stalks would be dead and fallen down. In Green and Dane Counties, Wisconsin, their depredations were restrained by heavy rains.

*Wheat midge (Diplosis tritici)* is reported in Mercer and Cabell Counties, West Virginia, and Henry and Shelby, Kentucky.

*Cotton-caterpillar or army-worm (Anomis Xylinæ)* appeared in Suwannee, Liberty, and Leon Counties, Florida; Clarke, Saint Clair, and Wilcox, Alabama; Jasper, Marion, and Wilkinson, Mississippi; West Feliciana, Tangipahoa, Cameron, Rapides, and Carroll, Louisiana; Galveston, Victoria, and Austin, Texas.

*Ball-worm (Heliothis armigera)* injured the corn-crop in Wilkinson County, Mississippi.

*Cotton-lice. (A. l. hides.)*—Lice appeared in cotton in Macon, Franklin, and Coweta Counties, Georgia; Saint Clair County, Alabama; and Fulton County, Arkansas.

Our correspondent in Powhatan County, Virginia, reports an unknown insect in the rye, which has received the local designation of rye-flea.



An unknown insect was destroying grapes in Calhoun County, Alabama.

*Rose-bug* (*Macrodactylus subspinosus*) injured fruit-trees in Monroe County, West Virginia.

*Canker-worm*, (*Anisopteryx vernata*.)—These worms destroyed a third of the orchards of Winnebago County, Illinois. Our correspondent suggests as an effective preventive a slip of woolled sheep-skin three inches wide, wool outward, nailed round the tree next the ground very early in spring.

*Apple-worms*, (*Carpocapsa pomonella*.)—The ravages of the apple-worm reduced the apple-crop of Whiteside County, Illinois, fully one-fourth.

*Tent-caterpillars*, (*Clisio campadis*.)—These insects injured fruit and shrubbery in Edward County, Illinois, and in Clarke County, Iowa.

*Squash-bugs*, (*Gonocerus tristis*.)—These pests were numerous in Bureau County, Illinois. A solution of hen-manure was found to be an effective remedy.

## CHEMICAL NOTES.

BY WM. MCMURTRIE, CHEMIST.

**NITROGENOUS WASTES.**—In a note by M. L. L'Hôte to the Academy of Sciences of Paris, which was published in Comptes Rendus, he describes a method for the utilization of nitrogenous wastes, which, while it has the merit of affording a means of getting rid of much useless material, has also the disadvantage of being quite expensive, and on this account it may prove unprofitable. The process depends upon dissolving the nitrogenous wastes in a one-tenth solution of caustic soda in the cold, or by heating carefully in order to avoid production of ammonia, in this way obtaining a solution, or, at least, a complete disintegration of the material. The viscous solution thus formed is mixed with sufficient slaked lime to form a pasty mass, and the whole placed in a close vessel connected with a receiver containing sulphuric acid, (chamber-acid,) and the mixture heated carefully at a low temperature to avoid dissociation of the ammonia. After the disengagement of gas has ceased the temperature is raised to a bright red heat. When the operation is finished the residue consists of caustic lime and carbonate of soda, which, being treated with water, regenerates the soda, which may be used again. The sulphate of ammonia produced, which is colored, may be purified by crystallization.

**A NEW OPIUM.**—M. P. Carles, in a communication to the Journal de Pharmacie et de Chimie, describes a new opium, said to come from Persia, which differs in some particulars from that of Smyrna. He describes it as follows:

This opium exists under the form of conical leaves, weighing about 440 grams, and obtained from the leaves of poppy, portions of which remain. It is free from seeds of rumex, and its odor, unlike that of the opium of Smyrna, is not poisonous, but exactly like that of green coffee; but when it is heated it has a sensible odor of chocolate. It is soft like ordinary opium, containing 5.60 per cent. of moisture. When well dried it is easily pulverized, but it is slowly deliquescent. The color of the paste is tawny, and is not darkened by exposure to the air. Examined with the naked eye, or by the aid of a magnifying glass, it appears very fine and homogeneous. Unlike the official species, it mixes easily with water, without being worked up with the liquid. The solution is slightly colored.

The author has subjected the raw opium to titration, according to the method of Fordos, and obtained, as an average of two operations, the following results :

|                |                |
|----------------|----------------|
| Morphine.....  | 8.40 per cent. |
| Narcotine..... | 3.60 " "       |

The proportion of morphine is somewhat lower than that found in the species from Smyrna. It was suspected that it contained an abnormal quantity of sugar, but it was found difficult to establish this point by comparison, since all species of opium contain different amounts of this constituent.

**ACTION OF COFFEE.**—Aubert, writing upon the constituents of coffee, states that in roasting none of the caffeine is lost, but that it may be more completely removed from the grains if they are strongly roasted. When taken in large doses it seems to cause a decrease in the action of the heart. When taken in small doses the pulse becomes more active, but the pressure of the blood in the vessels decreases.

**CLEANING WOOL.**—Many of our farmers pay but little attention when cleaning wool to the kind of water used in the operation ; but it will be seen that this should always be taken into consideration. Thus, waters containing lime should be carefully avoided, since this constituent combines with the suint, thus forming an insoluble soap, which seems to produce unpleasant effects in the processes of dyeing. For log-wood, red-wood, and dyes of like character, the effect appears to be unimportant; but when quercitron, fustic, and madder are used the effect is quite different, and is often very deleterious.

**PURIFICATION OF SUGAR BY OSMOSIS.**—The manufacturers and refiners of sugar in our country would do well to follow the example of those of Belgium, some of whom have successfully applied osmosis to the removal of the crystallizable sugar from molasses obtained from the third crystallization. The advantages claimed for this method are, that the molasses remaining after this treatment sells for the same price as ordinary molasses ; that the crystallization of the products of osmosis is effected in one-half the time required for that of ordinary sugars ; that white sugars are thus obtained in much less time ; that the number of crystallizing-pans may be reduced one-half ; and that the products obtained are much less colored.

**CAUSE OF INTERMITTENT FEVERS.**—In the discussion of the power of certain substances to prevent putrefaction and the development of protoplasmic life, Mr. F. C. Calvert states that quinine sulphate will completely stop the growth of fungi, and that since this substance is so efficacious in cases of intermittent fevers it is probable that the latter may be the result of the introduction of fungoid growths into the system, and this seems more probable since these fevers are developed more extensively in swampy countries, where the decomposition of vegetable matter is so abundant.

**COAL-ASHES.**—The following experiments of M. Lebouf, of Argenteuil, upon the value of coal-ashes, shows that in the ashes alone, without an admixture of soil or any manure, plants may grow and come to maturity. Thus, having filled three pots with ashes, he planted in the first wheat, in the second oats, and in the third strawberries. The growth was accomplished during the summer, the wheat and oats ripening and producing full heavy grains. The straw of the wheat attained a height

of about 4 feet 6 inches, while that of the oats grew to about 3 feet 6 inches. These experiments have been several times repeated, with the same success.

**ANIMAL FARINA—NEW FOOD FOR BEASTS**—The journal of the Central Society of Agriculture in Bavaria gives a curious report upon the utilization by agriculture of the residuum obtained in the preparation of the extracts of meats by the process of Dr. Liebig. At Fray Bentos, Uruguay, about 700,000 pounds of this product, the greater part of which is consumed in Europe, is prepared annually. It is obtained by throwing finely minced meat into water at the temperature of 61°, and evaporating the broth until it has acquired a sirupy consistency, always taking the precaution to carefully remove the fat upon the surface. About 200 pounds of fresh meat will prepare 6 pounds of the extract that is brought to the market.

The meat thus boiled, and which constitutes the residuum of the operation, has until of late been only imperfectly utilized, and has been destroyed by incineration, or by being thrown into the river. Lately, however, it has been used in the preparation of a fertilizer. Recently Liebig suggested the idea of utilizing this matter, which is so rich in nutritive properties, as food for domestic animals; and it is interesting to inquire if this end can be accomplished, as at Fray Bentos nearly 500,000 pounds of this dried residuum are annually produced. In order to appropriate the waste to this use, it is dried and reduced to powder. Samples of this new product having been sent to Munich, experiments were made with it upon swine, as it appears, with very advantageous results. In the agricultural review of the *Journal des Debats* M. G. Fouquet gives the following very clear and interesting information:

The pulverized material when completely dried is of a grayish color, and presents in its composition a ratio of 73.52 per cent. of albuminous matter, and 12.70 per cent. of fatty material.

A comparison of the composition of this animal farina and the fodders most frequently used shows that the former is much richer in nitrogen and fatty matter. In fact it contains three times as much of albuminous matter as vegetable fodder, and two and a half times as much as oil-cake, including also the same quantity of fat. No food can be complete if to the fatty and nitrogenous materials there is not united a certain quantity of salt, of the phosphates of lime and potassa, chlorides that exist in all the tissues and fluids of the animal organism, and for this reason the meat-flour does not possess the desirable qualities, as the process to which it has been submitted robs the muscular flesh of the salt that abounds in the extract given to the market.

The analyses of M. Lehmann, president of the Agricultural Society at Munich, have demonstrated that the meat of dried beef contains ten times as much of the phosphate of potassa and the chloride of sodium as that which has been treated by the process of Liebig. Vain attempts have been made to nourish dogs with the animal flour. After a short time the dogs would refuse this food, and if they were persistently and exclusively fed with it they died. But if the precaution was taken to add to it the salt of which it had been deprived, the results were very different. The dogs would then consume their rations with avidity, and rapidly increase in weight.

M. Lehmann selected the pig as the subject of his experiments, as it is well known that this animal can be sustained on either vegetable or animal matter. In his experiments potatoes were added to the pulverized residuum of the extract of meat. Two series of attempts were made. In the first, in order to replace the salt contained in the fresh meat, Lehmann made a substitute of the chloride of potassium and the phosphate of soda. In the second trial, considering the potatoes as sufficiently rich in alkaline salts, he only added the phosphate and carbonate of lime.

The experiments were made upon five gelded pigs of the Yorkshire breed, two of which were born on the 15th, and the other three on the 20th of August. In order to satisfy himself that the young animals were endowed with the same aptitude for assimilation, the experimenter submitted them to a preliminary trial, which demonstrated that they utilized all food with the desirable uniformity. This trial was followed by the experiment which was to ascertain the nutritive worth of the meat-flour, and which began on the 18th of November, and continued until the 31st of December. The animals were separated into three divisions. The first two divisions, each comprising



two subjects, were fed with the meat, and the third was nourished exclusively upon potatoes. As we have said, the meat-flour was accompanied by potatoes, and the mixture, to which was added 16 grains of common salt, was always reduced to a kind of broth by means of tepid water. The nourishment of the first lot was completed by 10.7 grams of the phosphate of soda, and 4.4 grams of chloride of potassium. To that of the second lot was added an equal mixture of phosphate and carbonate of lime. The mixture of meat and potatoes was consumed with avidity, and from the third day the animals of the first lot evinced so great an appetite that their ration was increased by the addition of potatoes.

During the forty-four days of the experiment, the animals of the first lot each consumed 219 kilograms (about 500 pounds) of potatoes, and 10.37 kilograms (25 pounds) of animal farina. Those of the second lot ate 208.75 kilograms (455 pounds) of potatoes, and 10.37 kilograms (25 pounds) of meat; while the hog of the third lot consumed 207.75 kilograms (454 pounds) of potatoes. At the close of the experiment the animals weighed as follows:

|                  | First lot.     |     | Second lot.    |     | Third lot.     |
|------------------|----------------|-----|----------------|-----|----------------|
|                  | <i>Pounds.</i> |     | <i>Pounds.</i> |     | <i>Pounds.</i> |
| November 18..... | 58             | 63  | 58             | 58  | 58             |
| December 31..... | 124            | 124 | 119            | 119 | 86             |
| Increase.....    | 66             | 61  | 61             | 61  | 28             |

As will be seen, a small addition of meat farina to the potatoes was sufficient to double the weight of the animals during the period of the experiment. The result shows that 100 pounds of potatoes alone gave an increase of 14 pounds in weight, while the same quantity of potatoes mixed with a small ration of meat-flour, (11 pounds,) in the same duration of time provided an increase of 29 pounds in weight.

**ALCOHOL IN BREAD.**—Mr. Thomas Bolas, in a communication to the Chemical News of May 30, states that the idea that the alcohol formed in the panary fermentation of bread is completely removed by the process of baking, is a mistaken one. By experiment he has established the fact that when about two ounces of ordinary bread is mixed with water and distilled, and the distillate is afterward purified, a perceptible quantity of alcohol may be obtained. Quantitative examinations of six samples of new bread, purchased at different shops in London, show the following results:

|              | Per cent. |
|--------------|-----------|
| I.....       | 0.245     |
| II.....      | 0.221     |
| III.....     | 0.401     |
| IV.....      | 0.368     |
| V.....       | 0.249     |
| VI.....      | 0.339     |
| Average..... | 0.314     |

## BOTANICAL NOTES.

BY DR. GEORGE VASEY, BOTANIST.

**SUPPOSED AMERICAN ORIGIN OF RUBUS IDÆUS, (THE GARDEN RASPBERRY.)**—Our cultivated raspberry is an importation from Europe. Our native red raspberry, (*R. strigosus*.) however, is so near it that the specific distinctness has been in doubt; and specimens from British America and the Rocky Mountains certainly occur which a botanist

must needs refer to *R. Ideus* itself. In his studies of the European *Rubi*, Professor Areschoug (in *Botaniska Notiser*, 1872, and in a translation by himself in *Trimen's Journal of Botany*, April, 1873,) makes prominent and important the fact that *R. Ideus* has no near relative, or, in other words, is the sole raspberry, in Europe, but in mode of growth, in the bark, &c., as well as in the fruit, accords with American species, with one of them so closely that all who have come to the conclusion that species have a history must needs infer a community of origin. Areschoug concludes, accordingly, that "this species did not originally have its home in Europe, but its origin is to be found in the east of Asia, viz. Japan and the adjacent countries, or perhaps in North America." It is one of the members of that old boreal flora (as we suppose) now mainly East Asiatic and North American, which has found its way to, or held its place in, the north of Europe somewhat exceptionally. Both *R. strigosus* and *R. Ideus* inhabit Japan and Manchuria, and Maximowicz regards them as forms of a common species. Professor Areschoug adopts the now familiar idea "that the Asiatic and North-American floras have reciprocally mixed with each other by passing Behring's Straits and the islands which in its neighborhood form a bridge between the two continents," which is a partial explanation of a problem that has to be treated far more generally, now that we have reason to believe that this flora formerly filled the Arctic Zone. (Dr. A. Gray, in the *American Journal of Science and Arts*, June, 1873.)

**ANEMOPSIS CALIFORNICA—A NEW MEDICINAL PLANT.**—Mr. J. J. Warner, of Los Angeles, California, who it appears is an old resident of that country, has recently written to Professor Henry, Secretary of the Smithsonian Institution, a letter respecting the medicinal qualities of a certain California plant. The letter and the package of roots accompanying the same was referred by Professor Henry to the Agricultural Department as coming within the range of its operations.

Mr. Warner states that he has been acquainted for some fifteen years with the medicinal properties of the plant of which he writes, and in his own person, and the persons of others, has known it to have remedial powers of unusual efficacy in the treatment of diarrheas and bowel complaints, and externally for bruises, for inflammations, and for old ulcers.

The use of the plant has heretofore been restricted principally to the Indian population, and to domestic practice among the residents of California.

Mr. Warner writes with apparent calmness and candor, and says that he has for several years entertained the desire that this remedy should be more generally known, and in pursuance of that desire has made the communication here related. His desire has been quickened of late by the reports of the prevalence of cholera in the Atlantic States, which disease he thinks might be prevented or mitigated by the use of this remedy if taken in season. Some dried specimens of the plant in a flowering state were sent, by which it is identified as the *Anemopsis Californica*, a low herbaceous perennial of the natural order Saururaceæ. It seldom grows over a foot or a foot and a half high, with a thick, creeping root-stock, which is somewhat spongy in texture, of a brownish or reddish color, and of an aromatic, slightly astringent taste.

Dr. Edward Palmer, who has traveled in California, Sonora, and Arizona, as botanical collector for several of the Government surveys in that region, reports that the plant is highly esteemed as a medicinal plant among the Indians in the above-mentioned countries, where it grows. The roots have been placed in the hands of Dr. Toner, President

of the American Medical Association, and will be given to competent medical men, that their properties may be carefully investigated.

**GRASSES FOR THE SOUTH AND SOUTHWEST.**—Specimens of *Bromus unioides*, Willd., which is the *Bromus Schraderi*, Kunth., (a truly American, and not, as has been stated, an Australian grass,) are frequently sent in from Texas, and generally with very encouraging statements of its value as a suitable grass for that section of country. Recently Mr. Louis Lehmann, of Brenham, Texas, has sent specimens of "a native winter-grass, which springs up in November or sooner, as the rains set in; it grows all winter, and is fit to cut for hay by the 1st of April. Cattle and horses eat it very greedily." Mr. Lehmann thinks it will be a great acquisition. It appears to be the *Phalaris Americana*, Ell., much resembling the *Phalaris arundinacea*, L., or Reed-Canary-grass, which is common in wet swampy grounds in the Northern States, but the Texas species is smaller and softer, intermediate between the Northern species and the common Canary-grass which produces the Canary bird-seed. It is well worthy of experimental trial by the farmers of Texas and the Southern States.

**NORWAY OATS.**—Mr. C. A. Sullivan, of Starkville, Mississippi, sends to the Department a specimen of the "Norway oats," and also one of the common black oats. The former specimen was grown from seed distributed by the Agricultural Department.

The two were grown on very poor soil—red-clay hill. The Norway stalk has ninety-one well developed seeds, while the other has thirty-seven faulty ones; the difference in the size and strength of the stalk is equally as great. Both were planted at the same time and grew within twenty feet of each other.

**SALT OR MINT WEED.**—*Iva axillaris*, Pursh.—Mr. William Budge, of Paris, Utah, sends a specimen of "a very obnoxious weed, called by the farmers in this section salt or mint weed." Mr. Budge says that its roots penetrate sometimes as much as fifteen feet into the earth, and it increases so fast and is so injurious to crops that it threatens great damage to that section of country. It is a low insignificant plant, very abundant in the valleys of Utah. It also occurs in Colorado. We solicit further information respecting it.

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## FRUIT-GROWING IN INDIANA.

A correspondent in Clarke County, Indiana, sends to the Department the following account of the rise, progress, and profits of fruit-culture in the vicinity of Otto:

Fruit-growing as a specialty in the vicinity of Otto is a comparatively new industry, having been introduced within the last fifteen years. From a small beginning, under circumstances somewhat unfavorable, it has become one of the leading industries of this locality.

The pioneer fruit-grower in this section, Mr. Argus Dean, in the spring of 1857 procured 1,600 peach-trees from a nursery in New Jersey, which he set upon a bluff of the Ohio River, immediately in rear of Marble Hill, and about two miles northeast of Otto. This orchard bore its first crop in 1861, and two successive crops, when the cold storm of the 1st January, 1864, so injured the trees that they never entirely recovered. They were cut away several years ago. It is not to be presumed that this first effort proved highly remunerative, yet it convinced Mr. Dean that fruit-culture might be made profitable in this locality, and he resolved to prosecute the business on a more extensive scale. For this purpose he purchased an old farm, the soil of which,



never strong, was badly exhausted. The ground was first prepared by being well broken with a turning plow and a portion of it was sub-soiled. In 1861 he set upon this farm about 1,800 peach-trees. They were set in alternate rows, both ways, with apple-trees. This peach-orchard has been very successful, having borne four good crops. In 1866 he set 2,000 peach-trees on adjoining ground, which bore a partial crop in 1871, and an excessive one the past season. His next peach-orchard consisted of about 5,000 trees, which were set in 1868 and produced a crop the past season. In 1870 he set about 6,000 peach-trees on the river bluff opposite Westport, Kentucky. If the season should prove favorable this orchard will produce a crop in 1874, when he will have over 14,000 peach-trees in bearing.

Mr. Dean has about 25,000 apple-trees, 2,000 of which are in bearing, and consist almost entirely of such varieties as have been proven to be adapted to this climate and soil. He has 500 trees of the famed cider-apple, "Hughes's Crab." For the cider made from the fruit of these trees he finds a ready sale at \$15 per barrel.

On account of having to handle such a large quantity of raw peaches this season and the difficulty of obtaining good help, the canning and preserving department had to be conducted on a smaller scale than was first intended. It amounted to 350 dozen of three-pound cans of peaches, and about 100 dozen of peach-preserves, jellies, &c.

Of the apple product he will make about 50 barrels of crab-apple cider, and 1,000 gallons of apple-butter, selling but a small quantity of raw apples.

Mr. Dean finds the best market for raw peaches in Cincinnati, and for preserved fruits in Louisville. The raw peaches he sent to Cincinnati this season amounted to something over 4,000 bushels, commanding a good price throughout the entire season. The gross receipts from all kinds and conditions of fruits will be something over \$10,000, but the outlay has been larger than usual in such business. His peach-orchards are plowed at least twice each summer, pruned and wormed, and the fruit is thinned when the crop is excessive. In the preserving departments the best refined sugar is used, even in the apple-butter, and everything is done with the view of producing a first-class article in every department; for such, a first-class price can always be obtained.

Mr. William S. Dean commenced operations in the spring of 1867, by setting 2,000 peach-trees and 700 apple-trees. In 1868 he set 350 peach-trees, and 500 in 1870. Last spring he set 1,500 peach-trees, and has made arrangements to set 900 peach-trees and 800 apple-trees the next spring. Mr. Dean furnishes the following statement of the proceeds of his peach-orchards: Sold at Cincinnati in 1871, 375 bushels, amounting to \$1,012; at other points 80 bushels, amounting to \$120; sold at Cincinnati in 1872, 2,458 bushels, amounting to \$5,648.20; at other points 100 bushels, amounting to \$150. Average daily shipments during the past season  $44\frac{1}{2}$  bushels. His apple-orchard, consisting principally of tested varieties, prominent among which is the Hughes's Crab, are located upon the bluff of the Ohio at an elevation of about 365 feet above the river, its geological character being that of the gray or cliff limestone, natural underdrain.

In the spring of 1868, Mr. Jonathan C. Davis, of Clermont County, Ohio, and Mr. William S. Greene, of Cincinnati, entered into copartnership for the purpose of cultivating fruit in this vicinity. For this purpose they procured a piece of land in rear of Otto Landing, on which they set between 5,000 and 6,000 peach-trees the first season, and about 5,000 on another piece of land in the same vicinity, and they have since that time set out between 5,000 and 6,000 more. In 1871 the proceeds of their peach-crop amounted to \$1,000; this, however, included the crop from a small orchard which had been previously planted on the premises. The crop of 1872 amounted to 3,227 bushels, and the gross receipts to \$7,740. The season commenced on the 17th of July, and ended on the 4th of October, the shipments averaging 46 bushels per day.

Mr. Davis is said to be the pioneer peach-grower of the West, having planted an orchard in Clermont County, Ohio, in 1847. In that locality he carried on the business extensively and successfully for many years. He is emphatically a peach-grower, having given his whole attention to that branch of fruit-growing. As a result of his long experience he is thoroughly posted on three essential points, viz: How to grow peaches; how to pick and pack them; and how to sell them. He has lately purchased a tract of land containing a little over 300 acres, and embracing the finest location for a fruit-orchard in this region. On this he will set 20,000 trees this spring, and will set so much of the remainder as may be adapted to that purpose in a short time, perhaps next spring.

The peach-crop of the past season was very large, amounting in the aggregate to 9,985 bushels. The season commenced about the middle of July, and closed the first week in October, during which period the shipments from Otto Landing averaged 143 bushels per day.

The peaches of Otto have become celebrated wherever known, and command the highest price in some of our principal peach-markets; consequently the growing of this fruit has become a leading branch of industry here, and from present indications it is reasonable to presume that at no very distant day all the tillable land on the river-bluffs in this region will be occupied with orchards. The peach does not seem to require a strong soil, and it is the opinion of some of the growers here that certain va-

rieties can only be successfully grown on very poor soil. As to the correctness of this theory the writer is not prepared to decide, but he is convinced from observation that peaches of large size and superior quality can be produced on very thin soil.

This is a favorable locality for the growing of both peaches and apples, compared with the general character of the western country. The under stratum of rocks, known as the cliff limestone formation, crops out about ten miles above Madison, and dips beneath the old red sandstone at New Albany, which latter formation forms the range of hills known as the "Knobs," and this peach-region lies about midway of this cliff formation. Of all sections underlain by the cliff stone, where the surface is level for any great distance, the soil is necessarily wet, and it is only where the rocks have been cut through by the Ohio River and smaller streams that the soil is dry. This dryness is on account of the rocks having been exposed to the drying influence of the atmosphere for a long period of time, so that by shrinkage cracks and open fissures have been made, leading from side to side of the declivities formed by the river and streams. Those cracks afford the most perfect underdrainage, which in process of time has changed the nature of the subsoil from a white, tenacious clay to that of a red, friable earth, and wherever this kind of subsoil prevails in this formation both peaches and apples do well, if properly cared for. It should, however, be understood that the excellence of all our improved fruits depends more upon artificial appliances than upon any peculiarity in natural causes. This is proven by the fact that we have as great extremes of success and failures in this locality as they have elsewhere.

The points upon which the peach-growers of Otto principally depend for success are thorough cultivation, pruning, and worming, and where the crop is excessive thinning is practiced. In picking and packing, the fruit is handled with great care. The boxes are made of the proper size to hold full measure. In packing, the deceptive practice of "putting the best on the outside" is not allowed.

## RAISING SILK-WORMS IN THE OPEN AIR.

An experiment in silk-culture of very considerable interest and importance is now in progress in England, at the international exhibition at South Kensington, which is based upon the accepted principle that prevention is better than cure. It is known that silk-worms are liable to various and sometimes very grievous diseases, attributed, no doubt with good reason, to the unnatural condition in which they are reared, in unhealthy confinement, and deprived of the influences of the open air, so essential to the sound development of all animal life. The infection has been for some years universally prevalent in the silk-producing districts of Europe, being transmitted from generation to generation, producing increasingly debilitated progenies of worms, till at last the extermination of that invaluable race of insects and the ruin of the silk-growers seemed almost inevitable. Japan was for a time the only source of healthy eggs; but large importations from thence into Europe have, from some cause, been found to be at least partially diseased.

In this state of things Dr. Chavannes and M. Roland, in Switzerland, have conceived the rational idea of preventing, by simple means, diseases which science has found to be without cure. Their plan, which has been tried in Switzerland with promising results, and is now being tested at South Kensington, is merely that of restoring the silk-worm to its natural conditions, by rearing it in the open air on the mulberry-tree itself, and thus of producing, under circumstances dictated and demanded by nature, a healthy, uncontaminated race of silk-worms.

M. Roland, who appears to have elaborated this plan very carefully, has published a pamphlet containing a treatise upon the subject, in which he maintains that "by rearing on the tree, and especially by allowing the eggs to remain on the branches throughout the winter, the worm becomes more robust, and after some years returns to a state of nature. Ultimately the larva has nothing to fear from violent wind, heavy rain, or burning sun, and remains firmly fixed on the branches or

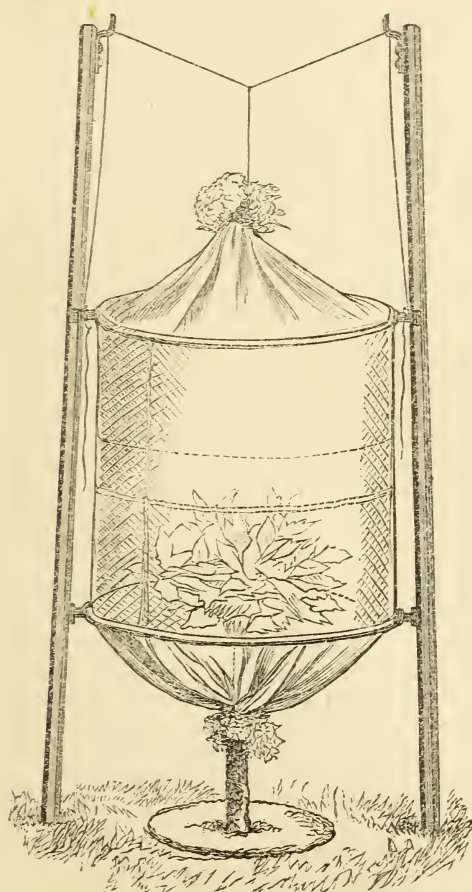


on the leaves. The pattern on the wings of the moth becomes more strongly marked, its movements are much more lively, and it makes use of its wings as much as its naturally sluggish nature will allow it to do." The singular entomological fact is stated, that at first the silkworm has much difficulty in holding on to the tree in very windy weather, and often lets itself drop by gnawing through the stalk of the leaf on which it is feeding; but in a few years the caterpillar becomes stronger and more lively, the moth more alert, and the insect "completely regenerated," and its eggs, exempt from disease, promise an unfailing return for the following year.

The mulberry-trees, in accordance with M. Roland's plan, are grown as standards, headed down at a height of three feet, so as to resemble a standard rose. They are pruned or pollarded every spring, the object being to secure the formation of a number of young shoots, with fresh, tender leaves, the older, harsher leaves not being suitable for the insect's food.

The annexed cut, copied from the London Gardener's Chronicle, will illustrate the method of proceeding.

Over the head of the tree, as will be seen, is fixed a hood or cover of



wire gauze and canvas, about three feet in diameter, the top and bottom being made of fine painted canvas. This hood is slipped over the tree, the lower end being tied carefully round the trunk, with intervening wadding, so as to prevent injury to the tree, as well as egress of the worms or ingress of other less desirable insects. The silk-worms are placed on the head of the tree through the upper opening of the hood, which is then closed carefully, like the bottom. Two stakes, one on either side, are then thrust into the ground, and the hood is made fast to them to secure steadiness. In spring the worms are hatched naturally at the same time that the shoots make their appearance, and when they have nearly eaten the leaves of one tree they are shifted to another. Thirty trees and ten hoods will rear silk-worms sufficient to produce an ounce of eggs.

It will be observed that this ingenious but simple contrivance contemplates only the rearing of worms in the open air, in a state of nature as it were, the great object being to secure healthy eggs and a robust race of worms. It is obvious that when it is desired to secure the most

SILK-WORM REARING IN THE OPEN AIR.



abundant supply of cocoons, in the quickest manner, and at the least expense, a more artificial mode of rearing must be resorted to. Hence, M. Roland has contrived, for hatching eggs more expeditiously, what he calls a "magnanerie," which is a shed with a span-roof of shingle and sides of wire gauze, having blinds for shelter against the wind or direct rays of the sun. This shed is placed in the most airy situation, and precautions are taken to insure thorough ventilation and freedom from damp and the access of injurious insects. Cleanliness and free ventilation are the essential features of the system throughout. But, as will be seen, the rearing of healthy eggs and the rearing of silk are two very different processes; and it is to the former only and to the rational and simple method of accomplishing it, as recommended by M. Roland, that it is the present object to call attention.

## AN ECONOMICAL LIME-KILN.

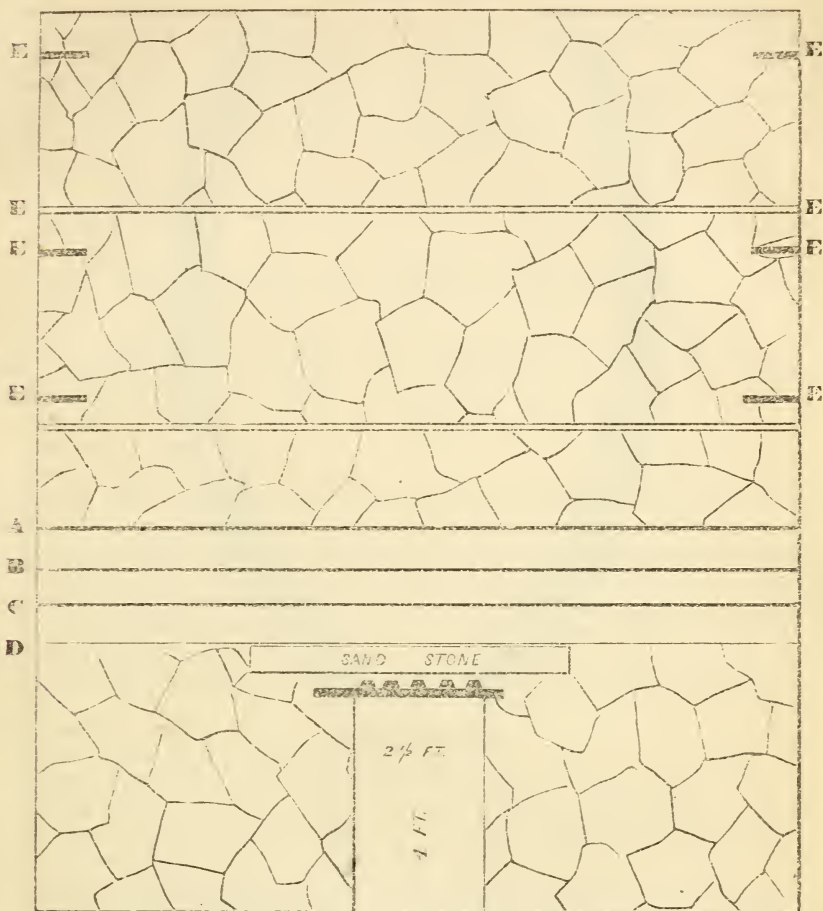
The value of lime for agricultural purposes has brought it into use wherever it can be obtained at a reasonable cost. The art of making it is so simple and easy as to allow every farmer who can cheaply procure limestone, (or shells,) to make it a part of his regular operations to burn his own lime. It is desirable, therefore, that he should have the means of doing so at the least possible expense. All that has been written for our reports, heretofore, on the subject of burning lime, has too many scientific details interwoven with the practical portions to be readily comprehended by the unlearned. What a farmer wants to know is how to build a kiln, how to fill and fire it, and how to use it, and how all this may be done at the least possible expense. I have undertaken to elucidate these points by drawings and directions which can be easily understood.

There are two classes who engage in burning lime. One pursues it as a business—to make profit by selling to others. The other burns lime for his own use. Of the first it may be said that the time occupied in the process of burning is an essential element in the success of his business; hence the construction of his kilns with expensive chimneys, to secure uninterrupted draught, even by means of blowers, when necessary—the only means of keeping his laborers constantly employed. But to the farmer, who burns lime for his own purposes, it is a matter of little importance whether his kiln burns out in twenty-four hours, (as it may be made to do, by artificial means,) or whether it occupies a week to produce the same result, because constant attention is not required as a matter of profit. Besides, it is a work which can be done at seasons when it will not interfere with the ordinary operations of the farm. The kiln once filled with stone and coal, and fired, may be left to do its own work, requiring only occasional regulation of the draught.

The kiln should be built in a side bank, so high that a wagon-load of stone driven near the top can be placed upon a platform, and there be broken into convenient sizes for burning, and from thence be thrown by hand or shovel into the kiln. This platform should be about four feet wide, and extend the whole length of the rear side of the kiln; and it should be as high as the wagon, and on a level with the top of the kiln, or nearly so. The kiln may be built of any kind of stone which will make a strong wall, and should be well bound throughout, on all sides, with planks and logs, as represented in the drawing. Without this,

the expansion and contraction, occasioned by the heating and cooling, would soon destroy the walls, however strong. The inner-wall should

1. Front elevation.

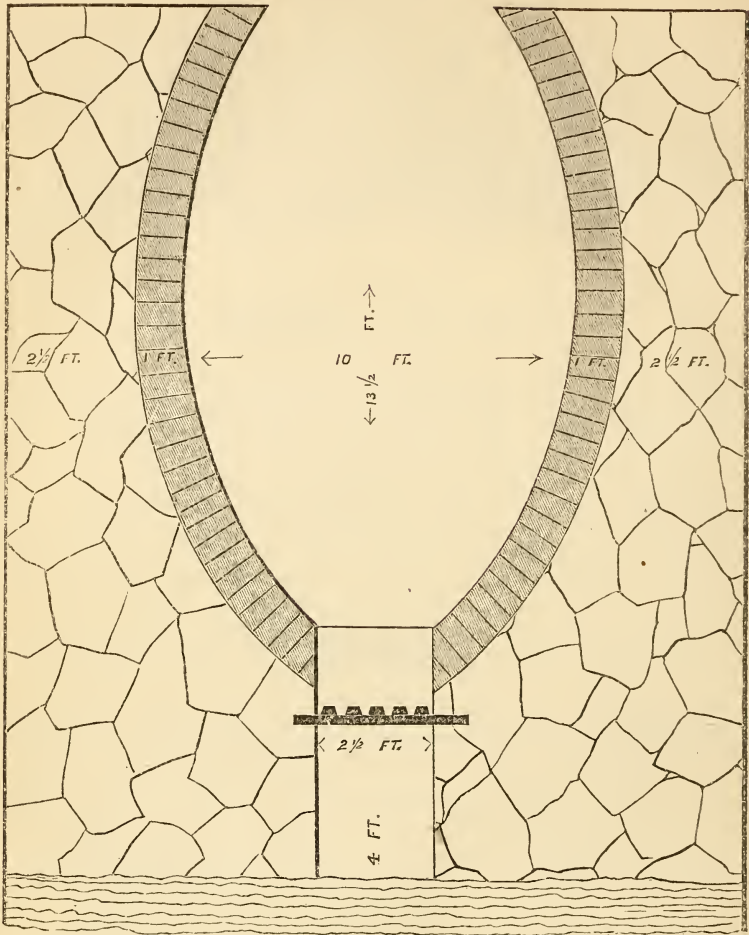


**A B C D**, timbers 12 by 8 inches, each log projecting 4 inches over the other.  
**E**, planks 12 by 2½ inches, extending through the wall.

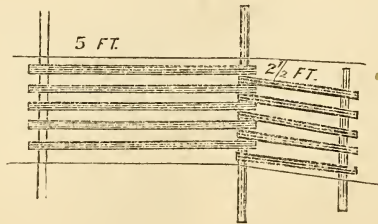
be a foot thick, and constructed of materials indestructible by heat, such as fire-brick, or soapstone—the latter being preferable. One thus lined, which I have had in use for many years, is seemingly as perfect as when built; and it is not even a pure soapstone, but “bastard,” found in many places in the mountains of Pennsylvania and elsewhere. The iron bars of the grate should be narrower on the top than on the bottom, and they should rest loosely on cross-bars, so that they may be shoved to one side or the other, and allow the lime to pass through, as may be needed, when taken out. The hinder part of the grate should be elevated, so as to throw the lime forward as it is taken out at the front. This is either a draw-kiln, from which you may take the lime as

it is burned, and continue to fill at the top, or a permanent kiln, as you may please to use it.

2. Sectional view.



3. Bottom grate.



To fire the kiln, at first, the bottom, for two or three feet in depth, should be filled with dry materials, such as old stumps, rails, corn-cobs,



and the like; then put in the coal, and stone, (or shells,) in alternate layers, each deep enough to hide the preceding layer. Then fill the eye of the kiln with dry kindling-wood, and set fire to it. When the mass becomes thoroughly on fire, it may be necessary to close the eye of the kiln with boards, to moderate the draught; for, on very windy days, I have known the draught to be so strong as to carry the fire straight upward to the top, without perfectly reaching the sides.

On limestone farms, the fields of which require that the stones be hauled away as they are turned up by the plow, such a kiln is the place to put them, that they may be turned into lime when the farmer has little else to do.

## ROTATION OF CROPS IN SWEDEN.

The Department has been favored by the Secretary of State with the following dispatch from the Hon. C. C. Andrews, Minister of the United States at Stockholm, in relation to Swedish agriculture:

LEGATION OF THE UNITED STATES,  
Stockholm, June 23, 1873.

SIR: Having visited Mr. Alex. Dickson's estate, Kyleberg, near Ödshög, in South Central Sweden, to witness the operation of his steam-plow, and being favorably impressed by his skillful practice of agriculture, I requested him to have the kindness to put down in writing his system of rotation of crops, which he did, as follows, remarking that the soil, mixed clay and loam, though of first-rate quality, had been much exhausted during many generations before it came into his possession.

"I have," he states, "three various rotations, viz: 1st, fallow; 2d, autumn-sown rye; 3d and 4th, clover and seeds; 5th, vetches, cut green; 6th, autumn-sown wheat; 7th, mixed grain of barley and oats.

"*Second rotation.*—1st, Swedes, turnips, carrots, or mangel-wurzel; 2d, barley; 3d, and 4th, clover and seeds; 5th, autumn-sown wheat; 6th, mixed grain of barley and oats.

"*Third rotation.*—1st, mangel-wurzel, Swedes, carrots, or turnips; 2d, barley; 3d vetches, cut green; 4th, mixed grain.

"The last rotation is carried out on the lightest part of the land, and is what is generally called the Norfolk system. At present, I am giving the six years' rotation two root-crops in succession, in order to get the land thoroughly cleansed from weeds and put into first-rate order for the succeeding crops. It is my intention to give the seven years' rotation the benefit of two root-crops, (potatoes and Swedes or other bulbs,) after having gone over the six years' rotation.

"The manure is applied to the fallow or root crops. In order to secure a good crop of rye, it is almost indispensable to have fallow precede it. The farm-yard manure is from preference drawn out to the fields in winter on sleds, and put into large rectangular heaps, which ought to be covered over with peat-earth, or the earth round about the heaps. In spring, as early as the condition of the land allows, it is spread and plowed in for the root-crops, which ought to be sown very early, in order to secure a heavy crop. The fallow is manured after having been well wrought and cleared of weeds. The manure is then plowed in and left till shortly before the rye is sown, unless the fallow should require to be harrowed or quelled, to destroy weeds. I now give all the crops two hundred-weight of Balur guano superphosphate, which is applied to the winter-grain immediately before or after sowing, so that it may get harrowed in. For the spring-grain it is applied in the same manner; and for the root-crops it is sown broad-cast over the field just before drilling."

I saw Mr. Dickson's steam-plow in successful operation by his ordinary farm-laborers, who had acquired their skill on the place. He considers it, on the whole, economical, especially as it enables him to take full benefit of favorable weather.

I was particularly struck by his careful method of saving grain-seed. The soundest and best developed grain is selected for the purpose, and separately stacked and left unthrashed till near the time it is required for use.

As a general rule, the most cultivated and wealthy gentlemen of Sweden devote a good share of their personal attention to agriculture. The income from the larger estates is about 4 per cent. The rural beauty and charms of many, perhaps most, of

the larger country estates of Sweden, combining as they do arable field with handsome woodland, hill, valley, and lake, are scarcely anywhere surpassed; and no traveler should form a judgment of Sweden till he has seen something of them.

I have the honor to be, &c.,

C. C. ANDREWS.

HON. HAMILTON FISH,  
*Secretary of State, Washington, D. C.*

## STEAM-PLOWING IN ENGLAND.

A communication on this subject from a farmer of Huntingdonshire, England, and kindly furnished to the Department by Mr. John C. Wallis, of Cumberland County, Virginia, will be found to contain facts of considerable practical value to those interested in this system of culture. The writer says:

I think it is cheaper than horse-power, since it requires three and sometimes four horses to do less than an imperial acre per day. I need not go into statistics to prove this further than to say that we bought our tackle in 1859, and are still using the same windlass and cultivator we then started with, and the former has not cost us £5 for repairs during the time, nor has the latter except for the wearing parts—the wheels and shares. We have had 1,000 yards of new wire-rope twice during the time, at a cost of £50 each time, and we now need 1,000 yards more. In regard to the engine, the cost is little compared to the work done, provided it is of sufficient power; a 10 horse-power is quite sufficient for our implements. Concerning the matter of the best system I am not in a position definitely to say, but my opinion is that, with a farm of, say, 1,000 acres or upward, Fowler's double-engine system might be employed to advantage; but on a farm of less size perhaps Smith's round-about plan would suffice. But on a farm consisting of land light and dry enough for a pair of horses to plow an acre and upward in a day, I have seen no system to supersede it at present, yet I do not say we may not, \* \* \* but I can say that all my neighbors envy me the mode of steam-cultivation, both on account of the quantity and quality of work done, and the little cost of it. However, few farmers have sufficient capital to spare, £500, for a 10 horse-power engine and the proper plow. But if I had a farm of 300 acres of strong land, I would try hard to spare £200 for the tackle, even if I had to hire the engine to work it.

The cost of steam-cultivation stands something like this: I pay the men 3s. 3d. per acre the first time over, 3s. the second, and 2s. 6d. per acre if I go over it a third time with my large cultivator, and we average over six acres per day; so that the following is about the cost of a day's work:

|  | s. | d. |
|--|----|----|
| 6 acres, at 3s.....                          | 18 | 0  |
| 10 cwt. of coals, at 1s. 6d.....             | 15 | 0  |
| Man and horse to supply water.....           | 7  | 6  |
| Oil.....                                     | 1  | 0  |
| Wear and tear and depreciation in value..... | 10 | 0  |

In all, £2 11s. 6d., or 8s. 7d. per acre, equal in United States currency to \$2.14 per acre. I think you will agree with me that we cannot get the work done with horses for the same money, even without regard to the superiority of the work. I think in a former calculation I put the wear and tear at £1 per day, but experience has proved that too much; for, as our men get more accustomed to the work, the breakage is less; and now I have allowed 7s. 6d. per day for hauling water, whereas we often do without the horse. When it is near, a man can carry it.

As to the increased yield per acre of grain through this system, I think it has, with the extra assistance of increased quantity of manure, increased the yield about 8 bushels per acre, and in most seasons it certainly does assist the drainage and enables us to grow much more and better roots; but in such an exceedingly wet season as the last all the advantages disappeared in that respect. The land was like so much plastic clay, and although we grew some good roots, it was so wet that they could not be fed on the land. But then again the steam-plow came to our aid, for though we had to cultivate the land four times over and crush it with our heavy crosskill roller twice over with the engine, yet we got it to a better and finer tilth, and got in the oats better this spring than we could possibly have done with any amount of horse-labor; so that, although it has not quite realized all that some sanguine people expected, yet it is steadily increasing in use. A great deal has been done in this neighborhood this spring, but I think that 25 acres per day is the most I have heard of. Perhaps less than 20

acres may be considered the average with the double-engine plan. All who have used it seem satisfied with results, and with the advantage of being able to do so much work just at the right time. I have just broken up 10 acres of clover-land which had been pastured to sheep since the first week in April, and hope to get it ready for a crop of turnips this month (June) with but little horse-labor, thus setting them at liberty for other work. Therefore, I can only repeat that it has more than justified our continued use of it, and what I should do without it I scarcely know.

Our correspondent, Mr. Wallis, after referring to the fact that the writer of the foregoing has had fourteen years' experience in steam-plow cultivation, and further referring to the fact that in this country the price of labor is getting so high (alluding more especially to the South) that resort to more machinery is necessary to allow the raising of crops at a profit, says:

If I had had a steam-plow this year I could have put in at least 200 acres of corn instead of 50, and instead of 150,000 hills of tobacco, could easily have put in twice that number, with the same number of hands and horses. A corn-crop can be put in and worked entirely by steam; and in working a crop of corn I should think a 10-horse engine ought to plow 20 acres per day easily.

Mr. Wallis had five years' experience with the steam-plow in Europe.

## POULTRY-RAISING IN FRANCE.

The Department is indebted to our Consul at Lyons, France, General J. P. Osterhaus, for some interesting statements concerning poultry-raising in that country. France feeds 40,000,000 hens annually, worth on an average 2 francs 50 centimes each, (50 cents,) or a total of 100,000,000 francs. The practice of making capons (emasculating the males) is very common, and the females are also rendered incapable of breeding, being unsexed—the French use in this connection the term *réformé*—and in that condition they are known as *poulardes*. This gives them a tendency to fatten, and is done when they do not promise well for laying, or have ceased to be fertile. Pullets of the largest breeds are generally selected for this purpose. About one-fifth of the 40,000,000 hens are so treated, and yield, at the above quotation, 20,000,000 francs. Besides the *poulardes*, 2,000,000 capons are annually sold, yielding 5,000,000 francs. The 40,000,000 stock hens produce every year at least 100,000,000 young chickens. If, of this number, 10,000,000 are allowed to replace the one-fifth sacrificed to Epicurus, and another 10,000,000 for various casualties, there remain 80,000,000 spring chickens, which, sold at 1 franc 50 centimes, (30 cents,) represent the sum of 120,000,000 francs. For the sake of accuracy, the enhanced value of the *poulardes* and capons must be taken into the account; this is not less than 6,000,000 francs, and raises the aggregate realized annually from the sale of the various kinds of chickens to 151,000,000 francs. Estimating the other products of the 40,000,000 stock hens at 240,000,000 francs, we have a grand total of 391,000,000 francs, (\$74,000,000,) which the chickens of the French farmers annually yield to them.

Should the number of stock hens be increased to 150,000,000, as competent persons advise, the yearly earnings would not be less than 1,000,000,000 francs.

The Consul adds, that from his own observation the exportation of chickens has become a regular business. The district of La Bresse is particularly noted for the quantity and quality of its feathered products, and all France and neighboring countries prefer to purchase in that



region. The minute and scrupulous care bestowed on the raising, dressing, preparing, and packing of the fowl guarantees fully against the ordinary risks of transportation.

Henry IV, the most popular of the French kings, promised to make France rich enough by the wise measures of his great minister of commerce, Sully, to enable every peasant to have his chicken-roast on Sunday. Nowadays this would not appear an extravagant prophecy.

## BEET AND BEET-ROOT SUGAR.

The immediate success of the manufacture of beet-sugar on the continent of America—and of its ultimate success there can be no doubt, now that public attention to the subject is thoroughly aroused—will be dependent upon two facts:

First. The proper selection of seed.

Second. The reducing of the principal product of the root to such a shape as to render its easy conveyance to the great centers an easy matter. On this latter depends the general and universal cultivation of the root, and until its growth becomes general and universal, the production of the sugar will be confined to a few localities more immediately adapted to its growth and to the easy manufacture of sugar.

The selection of the seed is of the first importance—of the various kinds of best beets grown for sugar. The roots may be classified into two varieties, viz., those which are slightly colored, and those which are white. Each class has its admirers. The red garden-beet is not used for sugar. In the first instance, and for a number of years, we shall have to rely on imported seed from the beet-growing countries of Europe, and therefore we shall, in a great measure, be dependent on the character and honesty of the seedmen importing from France and from Germany. Yet there seems to be no reason why we cannot grow our own seed when the principles of producing are understood.

The beet, like every other plant and production of nature, is susceptible of great and constant improvement. In its case, as in all others where plants are propagated by seed, "like has the greatest tendency to like," and therefore we may rely on it that the roots which are rich in sugar will produce seed for the succeeding crop, which will also be rich in sugar; and by constant and careful selection, a constant, although slow, improvement may be depended upon. When the root was first cultivated for sugar, 5 per cent. was considered a good yield; now 10 per cent. of sugar in the roots is of constant occurrence, and some of the most favorite kinds are known to produce 15 per cent. of sugar.

The difficulties in the way of selecting roots for seed consist in the fact that each root is a perfect plant, and that in order to insure improvement, each root which is to be planted for seed must be tested in one way or in another.

Vilmorin, the great seedsman of Paris, was a great improver of the root. His plan was to test every root before planting it for seed. He punched out a small piece of the root, reduced it to pulp, extracted the juice, and, by a set of very delicate instruments, he ascertained the specific gravity of the juice. The roots which showed a great richness were planted for seed, while those under a certain average were rejected; the process did not interfere with the seed-bearing power of the root.

By this means he found that he could produce roots of even a greater

richness than the parent plant, and he followed out the course for a few years, until his "pedigree" roots would in the average produce double and eventually even treble the yield of sugar. He thus established a new kind of beet, which bears his name, and is now known as the "Vilmorin Improved." This root is partially colored, the skin being pink or reddish, and it grows considerably out of the ground.

Doubtless hundreds of other growers followed similar, if not the same plans, and the consequence has been a wonderful increase in the richness of the root in sugar.

It is not to be supposed that the general seed-grower will adopt this extreme course, but the fact of the possibility of improvement being once established, each grower will observe for himself and adopt his own course, and thus a greater or less degree of success and constant improvement will be certain to follow.

Of one thing we may be pretty sure, namely, that as the entire root increases in specific gravity so will its richness increase, and therefore a selection of the roots for seed becomes a comparatively easy matter.

The following plan may be pursued: Get a tub of water; make the water so thick with sugar that the richest root will barely sink in the mixture; then, as you dig and wash your roots, try all those you mean to keep for seed in this sweetened water. Those which sink, select for seed; those which float, reject, and let them at once go to the mill to be ground into pulp for sugar.

All the roots which you intend for seed should be again thoroughly washed so as to get rid of the medicine in which they were immersed, and they should then be carefully stored for setting out in the spring to produce seed.

It is necessary to make the trial of the root *as soon as dug*, because, let them be ever so carefully stored, some roots will dry more than others, and then those which dried least, although they might be poorest in sugar, would show the greatest specific gravity, while those which are richest in sugar might, if too much dried, show a light specific gravity.

There are various other methods by which those who observe closely will easily ascertain which of the roots are richest, and will thus be able to select, without so close a trial, the most promising roots.

The fact once ascertained that improvement is possible will surely lead to improvement being made.

Another great fact must be specially borne in mind, that the roots which are intended for seed must not on any account have their tops cut off. The outside leaves should be removed, but the small heart-leaves should not be removed or injured, for by so doing you injure the future stalk which is to bear the flowers and seeds.

It is also important to note the fact that the lower ends of the roots and the parts covered with earth are far richer in sugar than the tops and parts which have grown out of the ground. This difference can be made apparent by any one in the following manner: Take exactly the one-seventh of a pound of the root, that is, 1,000 grains, (this is done to show the specific gravity;) attach it to a very fine wire or silk by a small hook, which is to be attached to a scale-beam such as is used for weighing medicines, (the scales need not be removed,) but have a corresponding piece of wire or silk attached to the other end of the beam so as *exactly* to balance. Then immerse the piece of root which has been attached to the wire in water, so that it hangs free from the sides of the vessel, and is at about the center of the water, and put in the other scale-weights until they just balance the piece of root; you will find that the piece of root, when cut from the *top* of the bulb, will be scarcely heavier

than the water which it displaces, while a piece of the root cut from the lower end of the bulb will require many grains to balance it, and thus show that the lower end of the root is far richer and of greater specific gravity than the upper.

Professor Voelcker, of England, gives the following as the relative specific gravity or weight of the root, and its consequent richness, when the root is divided and tried in different parts or sections. For example, a beet-root, grown in Berkshire, England, being divided into six portions, and analyzed, 1, the top, next the leaves, contained  $5\frac{1}{2}$  per cent. of sugar; 2, the next,  $7\frac{1}{4}$  per cent.; 3, the next,  $8\frac{3}{4}$  per cent.; 4, the next,  $10\frac{1}{2}$  per cent.; 5, the next,  $10\frac{3}{4}$  per cent.; 6, the next, 11.06 per cent.

In a beet-root from Surrey, England, cut in four divisions: Top, 1st, 6 per cent.; 2d,  $8\frac{1}{2}$  per cent.; 3d,  $8\frac{3}{4}$  per cent.; 4th,  $9\frac{1}{2}$  per cent. Another turnip-shaped beet contained: Top,  $4\frac{1}{2}$  per cent.; bottom, 8.05 per cent.

A great deal has been said and much mystification made about the possibility of growing roots which contain a greater proportion of salts than of sugar. Doubtless there is considerable truth in this; but of one fact we may be certain, and it is a practical fact: "That all beet-roots produced in good old land, which has been manured the previous year, will produce the maximum of sugar which the kind of root will produce; and that the production of salts will not be to a greater extent than is natural and necessary for the perfecting of the root for its present yield of sugar and its future production of seed."

The practical grower of beets may, therefore, banish all these speculative ideas, and proceed on the axiom that "The better the land, (provided it is old land,) and the better it is manured, the more sugar will follow to the acre; whilst on poor, sandy soil, and on mucky or peaty land, although the roots may be large, and the crop per acre heavy, yet he may expect that his yield per acre of sugar will be far less."

A rich clay, a clay loam, or even a rich sandy loam, well fallowed the previous year, and well manured, (also the previous fall,) will also produce the maximum of sugar, and, bearing this fact in mind, no one will be so silly as to sow his beet on any other kind of soil. If he does, he will meet with disappointment.

Of the various kinds of absolutely white beet the "Silesian White" sugar seems to be the best and the hardiest. The root grows almost entirely under the ground, and thus does away with the necessity of earthing up, a process, however, which should always be practiced where possible. In all cases it may be taken as a general rule, that the sugar-bearing roots should be earthed up with the plow or cultivator as often as the roots force themselves considerably above the soil. All the Silesian beets have colored skins above ground.

Any person going into the raising of sugar-beets should get as many kinds as possible; try them all; keep a record of the results, and then cultivate that kind which he finds most suitable to his own farm. In doing this he can never go wrong; every farm varies from others in some respects; no person can be expected to know beforehand the kind that is most suitable for his land, and nothing but actual trial and experience can be perfectly depended on.

Hardiness against the effects of frost is a most important point, and the prudent beet-producer will be especially careful to select those kinds which are least sensible to frost. Actual experience is the only guide to be depended on.

The second great point is the reduction of the root to such a state



that it is easily carried to the centers, where it is to be reduced into sugar.

The richest possible root, as it contains 80 per cent. of water, cannot be profitably carried more than two or three miles, and generally not more than one mile. This has led in France to the establishment of "raperies," where the root is ground and pressed, and the juice is then conveyed to the sugar factory in iron pipes, under ground. The distance the juice is thus conveyed is often seven miles, the juice being first prepared with lime.

In Galicia, (Europe,) at the great sugar factory of Schuetzenbach, where they employ 3,000 hands, the roots are sliced and dried and the sugar is extracted by diffusion. In this way the root is reduced, weight for weight, to about the value of barley, so that the dried roots can be carried as far as barley; but this plan is destructive to the farm, inasmuch as it leaves only the greens and foliage of the plant as a manure for the soil, and the land is only benefited by the extra cultivation it receives, while all the mineral elements of the root are removed, most certainly to the great detriment of the land. Neither of these plans is adapted for American use in a general system of beet-growing. Here we require the growth of the crop as an amelioration of the soil, and the consumption on the farm of all refuse so as to produce the greatest possible quantity of manure.

To attain this end, the roots must be *reduced on the farm* to pulp, which must be pressed, and the juice so concentrated as to be of easy carriage, and this can only be done in one of two ways: In the first, the juice must be defecated and purified by the usual processes as before described, and then be evaporated into a concentrated shape, so that it will keep for any length of time without injury. In the second, the juice as expressed from the root must be concentrated by evaporation into a coarser product, which contains all the elements of the root except the water and the pulp, (but in which the sugar is not injured,) and is ready to be refined by the refiner at the great centers of the industry.

This second course is by far the easiest, as it requires no chemical skill or special machinery and is not beyond the most ordinary comprehension—but there is this difficulty: The defecated juice, having been deprived of all its impurities, evaporates without being liable to burn in the evaporating vessels, and it is as easily reduced as the juice of the sugar-cane or that of the sorghums or maple sap; but the undefecated juice is peculiarly liable to burn on the bottom of the evaporator, and must therefore be evaporated either by steam-heat or, what is far simpler, by a double pan, the outer pan containing water and the inner pan the juice. The only objection to this course is that the evaporation does not proceed as rapidly in the double as in the single pan. The produce, however, when obtained and sufficiently concentrated, keeps as well as that of the defecated juice, and also refines equally well. The writer has proved this by actual experiment. If carefully done, the concentrated undefecated juice yields as readily to the means of purification as the defecated juice; it only requires one more operation in the hands of the refiner, and although not worth so much to the producer, "weight for weight," gives as profitable yields to the refiner (less the expense of one operation) and produces as pure a sugar.

In either of these plans, however, "speed and cleanliness are everything." If the juice is once allowed to ferment, even in the slightest degree, the production of crystalized sugar is rendered almost impossible, and the yield of it is so far reduced as to prove ruinous both to the producer and refiner. In either case, therefore, the juice must go directly

into the boiler after being expressed, and must be brought to the boiling heat with the least possible delay, more particularly with the undefecated juice, which must never be in any other vessel than the boiler until completed, and must be evaporated with the least possible delay. The necessity of this cannot be too much insisted on.

EDW. L. CULL.

TORONTO, CANADA, *June 17, 1873.*

## FACTS FROM VARIOUS SOURCES.

**INTERNATIONAL CROP-REPORTS.**—The secretary of the Iowa State Agricultural Society, in his annual report for 1872, says, concerning the practicability of international crop reports:

Plans to obtain a true report of the condition of crops throughout the world, for the benefit of farmers, have of late received wide discussion. It is proposed to utilize the appliances and machinery already in the possession of the Department of Agriculture—the storm-signal service, for the benefit of the War Department; the meteorological reports of some of the States, together with the observations in all other lands now made under the direction of the several governments—to accomplish this result. To this end it is recommended that a common plan be adopted, through an international conference of meteorologists and workers, and it will follow that every farmer in the land will be kept as accurately acquainted with the crops, and their possible effects upon the market, as are the bankers and brokers and merchants in London, New York, and Chicago. By the knowledge thus gained they would receive full price for their produce, and no longer be at the mercy of speculators and middle-men. The feasibility of arriving at some plan by which this may be done is argued with great ingenuity by the supporters of a system of international crop reports; and, from the extent and magnitude of the interest involved, it should at once receive careful and candid consideration.

**BREAD-EARNING.**—As going to show the importance of united action among farmers and mechanics, the Rural World (Saint Louis) appropriately quotes Commodore Maury, whose interest in agricultural matters has long been acknowledged. The quotation is as follows:

According to the census returns of 1870—as far as I can see, and as I can understand—there are in the United States, using round numbers, 12,505,000 bread-earners. These twelve and a half millions subsist nations with the fruits of their labor; they give food, shelter, and raiment to the 39,000,000 of souls that inhabit this country. Thus, you perceive that every bread-earner has, on the average, to fill a little more than three months.

Of these bread-earners, 5,922,271 were engaged in agriculture, and 1,765,010 in other rural trades and callings, such as blacksmithing, carpentering, and the like, making, with their food dependents, a total of 23,830,000 souls, in round numbers, out of the 39,000,000.

The manufacturers, including operatives and servants, earn bread for 1,117,000 souls. Commerce, including merchants, shop-keepers, sailors, clerks, peddlers, bar-keepers, &c., earn bread for 2,256,000. Railroad and express men earn bread for 595,000. Miners earn bread for 472,000.

So it comes to this, according to this census: While agriculture and mechanics fill ten times as many mouths as commerce, twenty times as many as manufacturers, forty times as many as railroads, and fifty times as many as mining, yet the least of these, by combination and management—as one of your orators on a former occasion has told you—exercises three times the influence in the country, and thrice the power with the Government, that you do—all for the lack of the proper spirit among farmers to work and pull together.

In connection with this, The World promptly says that the farmers and producers, who should in reality constitute the governing power, must cease to be governed; they must claim their natural rights, and maintain them by means of prompt and efficient organization. Farmers' clubs may serve as a basis for a township organization; these to form

the basis for a county, State, and national one. It is not desirable that such an organization should be political in character. Its whole aim should be to accomplish the greatest good for the greatest number. The time is at hand for the marshaling of the mighty forces that have hitherto been apparently at rest. The worth and value of the producer must be acknowledged. It is time that equitable and just laws be enacted in the interest of farmers and workingmen. The World recommends united and immediate action among those directly concerned.

**SILK-CULTURE IN INDIA.**—The Agricultural Gazette of India states that of a large number of silk-worms' eggs distributed in the Mysore district, nearly all have failed to germinate, owing to climatic causes. In the Bangalore and Kolar districts the worms were hatched, but nearly all perished. The symptoms attending this malady were remarkably uniform. The worms assumed a reddish color; their heads became enlarged, and a greenish fluid exuded from their mouths.

**COTTON-CULTURE IN INDIA.**—The experimental culture of cotton is, this year, to be greatly extended in the northeastern province of British India. This crop has become an important one throughout the northern and eastern portions of the Chittagong, including the newly acquired Garo territory. In Assam and along the ranges between that province and Sylhet, cotton is cultivated on a large scale. Seed for experimental culture is to be distributed among the government officers along the frontier. Thus the Anglo-Indian authorities are making energetic efforts to secure a large cotton crop.

**WHEAT-AREAS.**—The following interesting statement is quoted from the *Prairie Farmer*, (Chicago):

Years ago the city of Odessa, situated on a bay of the Euxine, between the Dnieper and the Dniester Rivers, was the greatest shipper of grain in the world. Odessa is the one shipping mart of all Southern Russia, and the growth of its trade represents the growth and development of that large country. But Russia, though large, is slow. She has few railways, no agricultural machinery, and the area of her wheat-fields has not enlarged in anything like the ratio which has marked the growth of farming in the Western States of America. In 1840, when Odessa shipped 170,000 tons of grain, Chicago shipped only 10,000 bushels. In 1850 the shipments of Odessa were 250,000 tons; of Chicago, 3,000,000 bushels. Between 1860 and 1870, Chicago passed the Russian port, and in 1872 the value of grain sold at Chicago for shipment east was \$100,000,000, and the transactions of trade larger than those of any other city on the continent but New York. The elevators of Chicago now have a capacity for 13,000,000 bushels at once, and this capacity is rapidly increasing as the wheat area extends to the new lands of Minnesota, Dakota, Nebraska, Iowa, and the far West.

**FRUITS IN WASHINGTON TERRITORY.**—Mr. Manning, secretary of the Western Washington Industrial Association, states that the chestnuts received from the Department are thriving finely. One tree in the town of Olympia has already attained a height of 30 feet. Butternut, walnut, and almond trees are all growing well, all perfecting their fruit. Ice has been formed over an inch only once in six years. Prunes, apricots, nectarines, quinces, thrive well.

The chestnuts above referred to are of the Spanish variety, and were planted in the experimental gardens of this Department in 1867, and the trees subsequently distributed, beginning in 1868.

**PRODUCTS OF DAVIESS COUNTY, KENTUCKY.**—Our correspondent makes a very careful statement concerning the leading products of this county. According to the books of the assessor 10,549,240 pounds of tobacco were raised, of which 1,013,100 pounds are credited to negro proprietorship. Of corn, 1,067,700 bushels were raised by whites; by negroes, 63,930 bushels, or a total of 1,131,630 bushels. Of wheat, by whites,



57,322 bushels; by negroes, 995 bushels, or a total of 58,317 bushels. Of hay, by whites, 3,153 tons; by negroes, 16, or a total of 3,174 tons. The total business transactions of the county, through its warehouses, during the year amounted to 13,135,000 pounds. The absolute total grown in the county was 11,417,000 pounds, which, sold at an average of  $7\frac{1}{2}$  cents, yielded for the crop \$799,190. The discrepancy between the assessor's returns and the actual is, of course, explicable. The amount of whiskey, in gallons, actually returned up to June 1, was 399,487; estimated by the United States collector, to close of the season, 60,513. Total, 460,000.

**THE DAIRY.**—In one township of De Kalb County, Illinois, Somonauk, there are three large cheese factories whose united product for the season, up to July 15, was 350,000 pounds. Two of these factories made 240,000 pounds last year, the cheese being pronounced most excellent in quality. At this time there are in all ten co-operative factories in the county, one producing butter as well as cheese, and one butter only. Besides, there are in the county several private dairies using, respectively, the milk of from fifty to one hundred cows.

**TREE PLANTING IN KANSAS.**—Mr. John Hodgins, of Nemaha County, Kansas, writes :

A package of chestnuts, planted in November last, (1872,) are coming up nicely. I have a fine bed of asparagus, raised from seed received from the Department two years ago. I have over 4,000 forest trees, of 30 varieties, and 12 varieties of fruit—all doing well on the high prairie soil.

**THE ONION AS FOOD.**—It is stated that the onion forms one of the common and universal supports of life in Spain and Portugal. Authority shows that according to analysis the dried onion contains from 25 to 30 per cent. of gluten, and ranks in this respect with the nutritious pea and the grains.

It is not merely as a relish that the wayfaring Spaniard eats his onion with his humble crust of bread, as he sits by the refreshing spring; but it is because experience has long proved that, like the cheese of the English laborer, it helps to sustain his strength also, and adds, beyond what its bulk would suggest, to the amount of nourishment which his simple meal supplies.

**SUGAR IN CALIFORNIA.**—The following is taken from a recent number of the Pacific Rural Press, (California :) :

During the past year 83,000,000 pounds of sugar were imported to the Pacific coast. Of this 65,500,000 pounds were consumed. There was only 1,500,000 pounds of beet sugar manufactured in the State, by the factories of Sacramento and Alvarado, so there is still room for eighty-six such factories, giving employment to 8,600 operatives for seven months of the year—from August until March—not to speak of the Chinese, numbering one hundred, on the Alvarado Company's farm, where they are employed in weeding, hoeing, &c. These Chinese are the only hands at present employed on the Alvarado farm, and are kept to cultivate the young beets.

The San Francisco Bulletin asserts that the prospects of beet culture in the State are exceedingly promising, and with the decline of cane-sugar manufactured in the Southern States, it is not improbable that it will ultimately be the source of supply of a large portion of the sugar consumed in the United States. The venture of the Alvarado Company has proved eminently successful, and the farmers of the locality have discovered that it is possible to raise a very fair crop of beets when wheat from excessive moisture or drought has entirely failed.

**IMPORTANCE OF GOOD SEED.**—As showing the importance of proper seed selection the experience of a farmer of San Mateo County, California, may be cited. He sowed large, full-grown wheat and small-

grained shriveled seed side by side on similar soil for hay. In the latter part of June he reports that the large grain is at least three inches taller than the other, and is also rank and green, while the other seems to be withering and dying.

**STARCH FROM THE BUCKEYE.**—A large factory near Paris is making starch exclusively from horse-chestnuts, the yield being fully 16 per cent. With this nut the buckeye is closely allied, the constituents of the fruit being essentially the same. It is proposed, in view of this fact, by progressive Californians, to enter upon the business of rearing buckeye-trees for starch-making purposes.

**ALFALFA, (*Medicago sativa*).**—The success of the Department distribution of this clover in the milder climates has been invariable. In name it is interchangeably Alfalfa, Lucerne, and Chilian. An additional importation of seed is expected from Chili during the season, and its distribution, for experimental purposes, will be undertaken in the fall of the present year. The Messrs. Vilmorin, Andrieux & Co., of Paris, France, through whom the supply is purchased by the Department, say:

Botanically we consider Lucerne and Chilian clover the same variety, but it seems to have a little changed during its cultivation in a more temperate climate and grown less productive, less hardy, and more tender than the old stock—at least with us in France.

In this connection may be quoted an article on the value of Alfalfa and the methods of its cultivation in California, from the Kern County Courier:

The roots are not of the fibrous and woody nature of the other grasses. Hogs feed upon them with the greatest avidity, and often follow them down to the depth of two feet or more, although this by no means destroys their vitality. It would be an unprofitable grass in any of the Northern or Middle States, and would not be likely to do well anywhere east of the Rocky Mountains unless in the extreme Southern and Gulf States. Its peculiar home seems to be in a warm, dry climate, where the ground never freezes, and frosts rarely, if ever, occur. It does best in a well-drained and friable alluvial soil, with a penetrable subsoil of an argillaceous nature. In this climate it may be mown six times, or oftener, each year, and be depastured during the winter, or for a period of three months. When young it is extremely delicate, and should be sown in connection with barley or wheat. When this is removed it will generally be found to have attained the height of two inches, and thereafter the surface requires to be kept moist by irrigation, as the roots have little penetration, and the young plants would otherwise soon wither on exposure to the sun. The second year it is able to take care of itself, and the fourth it arrives at full bearing. The roots then ramify so widely and reach to such a depth that it is able to bid defiance to drought. It does not begin to fail in productiveness in less than five years. When this occurs it may often be restored to its original vitality by plowing and a thorough pulverizing of the surface; the portion of the roots remaining below the reach of the plow will put forth fresh shoots and the field be soon again carpeted with verdure. When it is desirable to exterminate it altogether, with the view of re-seeding or planting some other crop, it can only be done by flooding the field with water and allowing it to stand for several days.

When this grass is generally cultivated in the warmer climates the northern and more temperate regions of this continent will lose their present reputed superiority in stock-raising. They have hitherto retained it because no species of grass known would retain its vitality during the long hot summers of the semi-tropical and tropical climates. Alfalfa has this desirable peculiarity, joined to more than twice the productiveness of any northern grass.

**BLACK-LEG IN CATTLE.**—The disease known as the black-leg is prevailing to some extent among the calves in Vernon County, Missouri. A farmer reports that he has lost twenty-six out of eighty head of cattle with a disease in the back or kidneys. They have good use of fore-legs, but no control over their hips, followed by rigidity in the joints. Many suffering from the disease refuse to eat, and all attacked have died.

**TEXAS CATTLE.**—Writing from Ellsworth County, Kansas, a correspondent says that 140,000 Texas cattle had arrived in that county, and were being grazed on the rich grasses of the country, the buffalo and the mesquite, of which there seems to be almost an inexhaustible supply. Ellsworth City, on the Kansas Pacific Railroad, is a great shipping point for these cattle. No Spanish fever has appeared among the native or Durham stock this season.

**SUMMER-PASTURE FOR CATTLE AND SWINE.**—Our De Kalb County, Illinois, statistical correspondent calls attention to the fact that a new system of summer pasturage for cattle and swine is being adopted in that county. He says that winter-rye sown reasonably thick furnishes excellent pasturage; swine appear to thrive better upon it than upon timothy and clover. It retains remarkable freshness in a very dry season, even when ordinary pasturage is scanty. In connection with it little if any corn is necessary to keep hogs in desirable thrift.

**RED CLOVER.**—Writing from Saint Joseph, Missouri, Messrs. H. M. and A. H. Varies say, concerning red clover seed received from the Department, that it was sown upon ground of ordinary fertility in the latter part of March or beginning of April. Every seed seemed to grow. The clover bloomed almost as soon as that grown in fields of several years' standing. It grew large enough the first season to have yielded nearly a half crop of hay, and passed through the last severe winter unhurt, and in a luxuriant and healthy manner. It seems to be hardier than the ordinary red clover of that section, though in appearance very similar.

**FULTZ WHEAT IN MARYLAND.**—The wheat crop of Frederick County, Maryland, promises an abundant yield. The leading wheat grown in the county, Tappahannock, will average three and four grains to the side. The Lancaster (red) promises well, but will not yield as much, per acre, as Tappahannock. It is thought that the average yield in that district will be from eighteen to twenty-five bushels per acre. A correspondent, to whom was sent a quantity of Fultz wheat for distribution, says that it is beyond doubt the most promising variety in the county, admirably adapted to the climate. At the date of harvesting (June 30) he is satisfied that he can pick out acres of it that will yield 35 to 45 bushels, and is confident that it will average 30 bushels per acre. Commercial fertilizers are generally resorted to in the wheat-culture of the county.

**SHEEP vs. DOGS.**—Another plea in behalf of sheep, as against much worse than worthless canines, comes from Knox County, Tennessee. Out of a flock of thirty-four, a farmer has lost twelve, having left only four ram-lambs for sale. To replace this loss with imported stock, he asserts, would cost him upward of \$1,000. His flock was the principal means of making money for the support of himself and family. His statement in detail is an interesting one, and worth the consideration of legislators and the tolerators of dogs in the sheep-growing regions:

I would here say that I came to Tennessee through the strong recommendation of American emigration agents. I was assured that I should be protected both in person and property, and here I am, with a family of twelve children and my property, four thousand miles away from my native land—the property, which was my chief dependence, for a time, for the support of my family, swept away at a stroke by a set of brutes which are of no earthly use to any one. I am told I have my redress in the courts of justice. I have very little hope of obtaining that justice which the case demands, when, as one gentleman at the recent farmers' convention said, the members of the State parliament were afraid to offend their constituents by passing a law to prevent the depredations of such brutes—a pitiable state of things, truly, when public



men can be scared by a dog. I think, under the circumstances, it is the duty of the State government to see my loss made up; if not, then I hope to see no more in the public press inviting emigration from Great Britain.

The writer manifests a very excusable warmth in the above utterance.

**RENO COUNTY, KANSAS.**—Two years ago there was only one settler in Reno County, Kansas. Now Government lands within its limits, with very rare exceptions, are occupied by actual settlers. The population of the county is between eight and nine thousand.

**PUTNAM COUNTY, MISSOURI.**—Greater attention is being given than formerly in this county to the judicious use of agricultural machinery. Such a policy will shortly bear its fruits in an increased production of staple crops.

**SHEEP DISEASE IN NEW MEXICO.**—Our correspondent in Santa Fé County, New Mexico, sends us the following:

I would like to call the attention of the Department to a disease among lambs, reported to me by Mr. E. W. Eaton, one of my assistant correspondents.

Mr. Eaton says: "I would like to call your attention to a disease that destroyed about six hundred of my lambs, and in the same proportion, say two-thirds of all the lambs dropped in several other cases, and, if possible, get some information from the Department of its cause and cure. It is in the mouth and on the lips, having the appearance of syphilitic warts in the mouth, and growing to entirely cover the teeth. So far, I could see it did not affect the tongue, the lips growing to three or four times their natural size. I used spirits of turpentine; this seemed to partially check the disease for a time, but did not entirely cure.

**PENNSYLVANIA YELLOW CORN.**—Our correspondent in Twiggs County, Georgia, reports:

The Pennsylvania yellow corn received from the Department was planted in March, manured with cotton seed. While my other corn planted a week earlier is just tasseling, that is made. I planted Adam's early sweet corn, three varieties—sugar, flint, and Cooley—the yellow is far superior to either.

**PRODUCTIVE MILLET.**—Our correspondent in Limestone County, Texas, reports that a variety of white millet, known in that locality as "White German millet," has been tried on high loamy land in the northern part of the county, and promises to be a very valuable acquisition. The heads are large and full of seed, and it produces at the rate of 2 to 2½ tons per acre, hay, which is highly relished, and all consumed by stock. He thinks it a better crop than Hungarian grass.

**IMPORTED SHEEP.**—Mr. William Gilson, our correspondent for Mercer County, Pennsylvania, reports that he has recently imported from England 26 "Gladstone" sheep. The heaviest weighed 410½ pounds, and clipped 15¼ pounds of wool. The weight of one yearling was 264 pounds, and of its fleece, 15½ pounds. The 26 yielded an average of 15 pounds and 5½ ounces of clean washed wool per head.

**AGRICULTURAL PROGRESS IN THE SOUTH.**—Our correspondent in Hinds County, Mississippi, reports:

The crops were planted this year under more favorable circumstances than usual. The land was in better condition, the teams in better order, and laborers entered more into the spirit of farming than at any time since the war. This is owing in part to the good price paid for last year's cotton crop. The freedmen are becoming ambitious to own property, and are working well as a general thing.

Our correspondent in Beaufort County, North Carolina, writes as follows:

There has been a decided improvement in the farming interest in this county in the last four or five years. More intelligence and skill are now engaged in the business;

better tools and machinery are used, and a greater variety of crops are grown; in fact, there is a general improvement. The greatest drawback is that cotton still occupies more than its proper share of attention.

**AGRICULTURAL ADVANCE IN IOWA.**—A correspondent in Union County reports a growing interest in that county in the culture of flax, fruit, Alsike clover, and hedges. Between 1,000 and 2,000 acres have been put under flax this spring, and an unusually large number of fruit-trees have been set out—some farmers starting orchards with as many as five hundred. Alsike clover is meeting with success, both because of its adaptation to the climate and because it proves to be a good substitute for buckwheat as a source of honey for bees. For the planting of hedges there is now a general "rage." This results, in part, from the increasing scarcity of timber. The osage orange is principally planted, but some prefer willow. Last season hedges were started by setting out plants, but this season the prevailing practice has been to sow the seed in the place for the hedge. For osage orange hedges the "double-row system" is gaining in popular favor.

**DISCOURAGEMENTS TO FARMERS IN ARKANSAS.**—A correspondent in Franklin County, Arkansas, under date of May 22, reported that in that section, and he thought throughout the State, the farmers had a somewhat cheerless prospect before them. Food for both man and beast was very scarce; the season had been unusually wet and backward, and, as a consequence, both corn and cotton were late and small, and there were strong indications that these crops must be short in quantity and poor in quality. He concludes as follows:

More oats have been sown this year than ever before, and, as far as my observation extends, they look promising. Some interest is being manifested in Hungarian grass, but the entire absence of mowers, and hay rakes and forks prevents a great many from raising it. It does finely on our river-bottoms, and three tons to the acre can be easily raised. The hogs have died off so within the last few years that we have to depend upon the counties bordering on Missouri for our main supply of meat. Large quantities of meal are also hauled from there, in wagons, and meet with a ready sale at \$1, cash, per bushel, by the load. It is generally conceded that the farmers in this section are worse off than they were the first year after the war.

**SUPERIOR VALUE OF THOROUGHED STOCK.**—Very many farmers who rely in part for their profits on the horned cattle they keep continue to grow only the unimproved, inferior varieties which have descended to them from the random stock kept by their forefathers. The following analysis of the reported results of two auction sales in Illinois of short-horn stock may suggest to such farmers the wisdom of exchanging their scrubby cattle for improved breeds. The first of the sales referred to was of short-horn cattle owned by J. H. Spears & Sons, of Forest Hill, near Tallula, Menard County. The sixty head sold were all purchased by the Messrs. Spears in Kentucky last autumn most of them from the herd of William Warfield, of Lexington. Twenty-six were bulls, and the remainder were cows. The latter sold as follows: 1 calf, \$100; 9 yearlings, average \$307.83 per head; 9 two-year-olds, average \$448.33; 1 three years old, \$230; another with a bull-calf beside it, \$1,510; 3 four-year-olds, average \$256.67; 1 five years old, \$340; 1 six years old, \$250; 1 seven years old, \$795; 2 eight years old, \$175 and \$225; 1 eleven years old, and calf beside it, \$295; 2 twelve years old, one \$150, and the other with twin calves, \$500; 2, the ages not given, \$225 and \$260. Total, \$11,630.50. The twenty-six bulls sold as follows: 1 calf, \$105; 16 yearlings, average \$274.06; 7 two-year-olds, \$233.57; 1 three years old, \$330; 1 four years old, \$210. Total, \$665. Total for the herd, \$18,295.50. Average per head,

\$304.92. The next day, June 12, at Springfield, Edward Hles sold at auction from his herd thirty-seven head. Eight were bulls, and sold as follows: Cherub, three years old, imported from England, \$6,000; sired by him, 1 calf, \$150; 1 yearling, \$525; another, \$1,300; 3 yearlings, (not of Cherub's stock,) average \$135; and 1 two years old, \$185. The twenty-nine cows and heifers brought: 1 calf, \$525; 5 yearlings, average \$771; 10 two-year-olds, average \$763.50, the extremes being \$185 and \$1,125; 4 three-year-olds, average \$1,037.50, extremes \$625 and \$1,650; 2 four-year-olds, \$755 and \$1,700; 4 five-year-olds, average \$1,546.25, extremes \$650 and \$2,500; 2 nine-year-olds, \$310 and \$500; 1 ten-year-old, \$625; average price per head for the 29, \$904.82; for the 37, \$940.70. The average price per head of the 35 yearlings sold at the two auctions was \$378.30; of the 27 two-year-olds, \$499.63.

**FLAX-CULTURE.**—This branch of farming is on the increase in the Northwest. About 4,000 acres were this season sown in Marshall County, Iowa. In Watonwan County, Minnesota, where last year 1,000 acres were sown, the acreage has been enlarged to 7,000. Flax is also raised in Nicollet County, Minnesota, farmers generally receiving about \$12 per ton and realizing a fair profit. It does well upon the highlands overlooking the Clackamas River, Oregon. Very few lint mills are to be found in these new flax growing regions, where the crop is grown mostly for seed. The lint is therefore only a waste product. It would be well if some manufacturing enterprise should be aroused and a new margin of profit secured to the farmer by utilizing this material. In Washington County, Nebraska, flax culture is also increasing rapidly. The results last year were very satisfactory, averaging  $14\frac{1}{2}$  bushels per acre, worth \$1.20 per bushel.

**RECLAMATION OF SWAMP LANDS.**—A company of enterprising farmers in Holt County, Missouri, are constructing a ditch twelve miles long, by which an immense tract of overflowed and swamp land will be effectually reclaimed.

**PROGRESS IN NEBRASKA.**—An Adams County, Nebraska, correspondent says:

This county, two years ago, was an unbroken prairie; now there are very few portions of it not taken up and improved. In all respects it is an excellent agricultural region.

**PROGRESS IN EGYPT.**—As one of the signs of progress in agricultural industry in Egypt, it may be of interest to our people to know that His Excellency Chérif Pacha, minister of foreign affairs, has recently made an order in behalf of the government on R. Habersham, Son & Co., Savannah, Georgia, through R. Beardsley, esq., consul-general of the United States at Alexandria, Egypt, for fifteen tons of sea-island cotton seed, for culture in Egypt, under the express direction of the enterprising ruler of that country, Ismail Pacha.

**HART COUNTY, GEORGIA.**—The statistics of Hart County, Georgia, for the past year, are furnished as follows:

|   |        |
|---|--------|
| Number of acres in cotton .....         | 9,293  |
| Number of acres in wheat .....          | 4,288  |
| Number of acres in rye .....            | 22     |
| Number of acres in barley .....         | 1      |
| Number of acres in oats .....           | 4,202  |
| Number of acres in Indian corn .....    | 12,762 |
| Number of acres in sweet potatoes ..... | 229    |
| Number of acres in Irish potatoes ..... | 44     |



|   |       |
|---|-------|
| Number of acres in tobacco .....          | 3     |
| Number of acres in sorghum .....          | 47    |
| Number of acres in clover and seeds ..... | 4     |
| Number of acres in vineyards .....        | 2     |
| Number of acres in orchards .....         | 584   |
| Number of sheep .....                     | 3,507 |
| Number of dogs .....                      | 922   |
| Number of hogs .....                      | 4,387 |
| Number of horses and mules .....          | 1,213 |
| Number of cattle .....                    | 4,495 |
| Number of cotton factories .....          | 1     |
| Number of spindles .....                  | 552   |
| Number of carding-machines .....          | 2     |

## MARKET-PRICES OF FARM-PRODUCTS.

JULY, 1873.

The following quotations represent the state of the market, as nearly as practicable, at the beginning of each month.

| Articles.                          | Price.           | Articles.                             | Price.           |
|------------------------------------|------------------|---------------------------------------|------------------|
| NEW YORK.                          |                  | BOSTON.                               |                  |
| Flour, superfine State...per bbl.  | \$4 70 to \$5 10 | Flour, western, superfine, per bbl.   | \$5 00 to \$5 50 |
| extra State.....do.                | 6 05 to 7 00     | western extras.....do.                | 6 25 to 7 50     |
| superfine western.....do.          | 4 70 to 5 10     | western choice.....do.                | 8 00 to 11 00    |
| extra to choice western,           |                  | southern extras.....do.               | 8 00 to —        |
| per barrel.....do.                 | 5 70 to 10 50    | choice Baltimore.....do.              | 11 00 to —       |
| southern shipping, com-            |                  | Wheat.....per bush.                   | — to —           |
| mon to choice.....per bbl.         | 6 00 to 7 75     | Rye.....do.                           | 85 to 90         |
| southern family, ordinary          |                  | Barley.....do.                        | — to —           |
| to choice.....per bbl.             | 7 75 to 10 45    | Oats.....do.                          | 42 to 53         |
| Wheat, No. 1 spring...per bush.    | 1 52 to 1 55     | Corn, southern yellow.....do.         | 60 to 62         |
| No. 2 spring.....do.               | 1 42 to 1 55     | western yellow.....do.                | 60 to 62         |
| winter, red, west'n.....do.        | 1 50 to 1 60     | Hay, eastern and northern, per        |                  |
| winter, amber, western,            |                  | ton.....do.                           | 13 00 to 29 00   |
| per bushel.....do.                 | 1 60 to 1 65     | Beef, western mess.....per bbl.       | 10 50 to 12 50   |
| winter, white, western,            |                  | western extra.....do.                 | 12 50 to 13 50   |
| per bushel.....do.                 | 1 60 to 1 85     | Pork, prime.....do.                   | 13 75 to 14 25   |
| Rye.....per bush.                  | 81 to 85         | mess.....do.                          | 16 50 to 17 00   |
| Barley.....do.                     | Nominal.         | Lard.....per lb.                      | 8½ to 9½         |
| Corn.....do.                       | 45 to 63         | Butter, N.Y. and Vt., fair to choice, |                  |
| Oats.....do.                       | 43½ to 46        | per pound.....do.                     | 22 to 27         |
| Hay, first quality.....per ton.    | 23 00 to 30 00   | Butter, western.....per lb.           | 20 to 25         |
| second quality.....do.             | 23 00 to 25 00   | Cheese, N. Y. and Vt. factory,        |                  |
| Pork, mess.....per bbl.            | 16 20 to —       | choice, per pound.....do.             | 12½ to 13        |
| extra prime.....do.                | 13 50 to 13 75   | Western factory, choice,              |                  |
| prime mess.....do.                 | 15 62½ to 16 12½ | per pound.....do.                     | 12 to 12½        |
| Lard.....per lb.                   | 8½ to —          | Cotton, ordinary to good ordi-        |                  |
| Beef, plain mess.....per barrel.   | 9 00 to 11 50    | nary.....per lb.                      | 13 to 18         |
| extra mess.....do.                 | 11 25 to 12 50   | low middling to mid-                  |                  |
| Butter, western.....per lb.        | 15 to 23         | dling.....per lb.                     | 19½ to 20        |
| State dairy.....do.                | 23 to 25½        | Sugar, fair to good refining.....do.  | 7½ to 7¾         |
| Cheese, western, factory.....do.   | 9 to 10          | Tobacco, lugs.....do.                 | — to —           |
| State factory.....do.              | 12 to 12½        | common to medium                      |                  |
| Cotton, ordinary to good ordi-     |                  | leaf.....per lb.                      | — to —           |
| nary.....per lb.                   | 14½ to 18        | Wool, Ohio and Pa.....do.             | — to —           |
| low middling to good               |                  | Michigan.....do.                      | — to —           |
| middling.....per lb.               | 20 to 23         | other western.....do.                 | — to —           |
| Sugar, soft yellow.....do.         | 8½ to 9½         | pulled.....do.                        | — to —           |
| soft white.....do.                 | 9½ to 10½        | combing fleece.....do.                | — to —           |
| Tobacco, Western lugs, all grades, |                  | California.....do.                    | — to —           |
| per pound.....do.                  | 7 to 8½          | Texas.....do.                         | — to —           |
| common to medium                   |                  |                                       |                  |
| leaf, all grades, per lb.          | 8½ to 10½        | PHILADELPHIA.                         |                  |
| Wool, American Saxony, fleece,     |                  | Flour, superfine.....per bbl.         | 4 00 to 4        |
| per pound.....do.                  | 50 to 53         | Pa. extra.....do.                     | 4 75 to 5 00     |
| American merino, full              |                  | Pa. family.....do.                    | 7 00 to 8 00     |
| blood.....per lb.                  | 48 to 50         | western family.....do.                | 6 25 to 7 00     |
| American, combing.....do.          | 50 to 55         | western, fancy.....do.                | 7 50 to 8 12½    |
| California spring clip, un-        |                  | Wheat, winter red, western, per       |                  |
| washed.....per lb.                 | 21 to 31         | bushel.....do.                        | 1 55 to 1 60     |
| California fall clip, un-          |                  | winter, amber, western,               |                  |
| washed.....per lb.                 | 17 to 22         | per bushel.....do.                    | 1 59 to 1 65     |
| Texas.....do.                      | 18½ to 33        |                                       |                  |

## Market prices of farm-products—Continued.

| Articles.  | Price.            | Articles.   | Price.           |
|--|-------------------|---|------------------|
| PHILADELPHIA—Continued.                                  |                   | CINCINNATI—Continued.   |                  |
| Wheat, winter, white, western,<br>per bushel.....do..... | \$1 60 to \$1 72½ | Wheat, white winter.....do.....                                     | \$1 45 to \$1 50 |
| spring.....per bush.                                     | 1 35 to 1 52      | Rye.....do.....   | 63 to 68         |
| Rye.....do.....  | 63 to 65          | Barley.....do.....  | 80 to 1 20       |
| Barley.....do.....                                       | Nominal.          | Corn.....do.....  | 44 to 50         |
| Oats, western, white.....do.....                         | 42 to 47          | Oats.....do.....  | 30 to 41         |
| western, mixed.....do.....                               | 39 to 43          | Hay, baled, No. 1.....per ton.                                      | 17 00 to 18 00   |
| Corn, yellow.....do.....                                 | 52 to 56          | lower grades.....do.....  | 10 00 to 16 00   |
| Hay, fresh, baled.....per ton                            | 25 00 to 28 00    | Beef, plate.....per bbl.  | 12 00 to 12 50   |
| common to fair shipping,<br>per ton.....do.....          | 20 00 to 25 00    | Pork, mess.....do.....  | 15 25 to 16 00   |
| Pork, mess.....per bbl.                                  | 17 00 to 17 50    | Lard.....per lb.  | 7½ to 8½         |
| prime, mess.....do.....                                  | 16 00 to 16 50    | Butter, choice West'n Res.....do.....                               | 15 to 22         |
| prime.....do.....  | 14 50 to —        | Central Ohio.....do.....  | 17 to 18         |
| Beef, western mess.....do.....                           | 8 00 to 10 00     | Cheese, factory.....do.....   | 11 to —          |
| extra mess.....do.....                                   | 10 00 to 12 00    | pine-apple.....do.....  | — to —           |
| Warthman's, city family.....do.....                      | 15 00 to —        | Cotton, ordinary to good ordi-<br>nary.....per lb.                  | 13 to 16         |
| Lard.....per lb.   | 8½ to 11½         | low middling to good<br>middling.....per lb.                        | 18 to 20½        |
| Butter, choice.....do.....                               | 26 to 28          | Sugar, N. O., common to fair.....do.....                            | 8½ to 9½         |
| good.....do.....   | 18 to 24          | N. O., good to prime.....do.....                                    | 9½ to 10         |
| Cheese, N. Y. factory.....do.....                        | 13 to 14          | Tobacco, lugs, all grades.....do.....                               | 6 to 22          |
| Ohio factory.....do.....                                 | 12 to 13          | leaf.....do.....  | 8 to 35          |
| Cotton, ordinary to good ordi-<br>nary.....per lb.       | 14½ to 18         | Wool, fleece-washed, common to<br>fine.....per lb.                  | 35 to 40         |
| low middling to good<br>middling.....per lb.             | 19 to 23          | tub-washed.....do.....  | 40 to 43         |
| Sugar, fair to good refining.....do.....                 | 7½ to 8           | unwashed, clothing.....do.....                                      | 25 to 27         |
| Wool, Ohio X and XX.....do.....                          | 47 to 52          | unwashed, combing.....do.....                                       | 35 to 37         |
| Ohio combing.....do.....                                 | 56½ to 63         | pulled.....do.....  | 33 to 35         |
| Indiana tub.....do.....                                  | 50 to —           |   |                  |
| pulled.....do.....                                       | 40 to 41          |   |                  |
| unwashed.....do.....                                     | 26 to 45          |   |                  |
| BALTIMORE.   |                   | CHICAGO.  |                  |
| Flour, superfine.....per bbl.                            | 4 50 to 8 50      | Flour, white winter extras, fair<br>to choice.....per bbl.          | 7 50 to 10 00    |
| extras.....do.....                                       | 5 50 to 9 25      | red winter extras.....do.....                                       | 7 00 to 8 00     |
| family and fancy.....do.....                             | 7 50 to 11 00     | good to choice spring ex-<br>tras.....per bbl.                      | 6 00 to 6 50     |
| Wheat, white, fair to choice, per<br>bushel.....do.....  | 1 60 to 1 80      | spring superfines.....do.....                                       | 2 50 to 4 50     |
| amber, choice.....per bush.                              | 1 70 to 1 75      | good to fancy Minnesota,<br>per barrel.....do.....                  | 6 00 to 7 50     |
| red, common to prime,<br>per bushel.....do.....          | 1 40 to 1 70      | Wheat, No. 1 spring.....per bush.                                   | 1 23 to —        |
| Wheat, red, western.....per bush.                        | 1 30 to 1 60      | No. 2 spring.....do.....  | 1 15½ to 1 16½   |
| Rye, common to prime.....do.....                         | 70 to 77          | Wheat, No. 3 spring.....per bush.                                   | 1 05 to 1 07     |
| Corn, yellow southern.....do.....                        | 69 to —           | Rye, No. 2.....do.....  | 57 to 63         |
| white southern.....do.....                               | 76 to 77          | Barley, No. 2.....do.....   | 45 to 52         |
| mixed western.....do.....                                | 60 to 60½         | Corn, No. 2.....do.....   | 33½ to 34½       |
| Hay, western, good.....per ton.                          | 18 00 to 24 00    | Oats, No. 2.....do.....   | 29 to 30         |
| Pork, mess.....per bbl.                                  | 17 00 to 17 50    | Hay, timothy.....per ton.   | 13 00 to 15 00   |
| Beef, Baltimore mess.....do.....                         | 15 00 to 20 00    | prairie.....do.....   | 9 00 to 11 00    |
| extra.....do.....  | 23 00 to 25 00    | Pork, mess.....per bbl.   | 14 00 to 14 25   |
| Butter, western.....per lb.                              | 14 to 22          | Beef, mess.....do.....  | 8 75 to 9 00     |
| Cheese, eastern cutting.....per lb.                      | 15 to 15½         | extra mess.....do.....  | 9 75 to 10 00    |
| western cutting.....do.....                              | 12½ to 13½        | Lard.....per cental.  | 8 10 to 8 50     |
| Cotton, ordinary to good ordi-<br>nary.....per lb.       | 14½ to 17½        | Butter, strictly ch'ce yellow.....p. lb.                            | 18 to 20         |
| low middling to good<br>dilling.....per lb.              | 19 to 20½         | medium to good.....do.....  | 15 to 16         |
| Sugar, New Orleans.....per lb.                           | 8 to 9½           | Cheese, N. Y. factory.....per lb.                                   | 11 to 12         |
| Tobacco, common to good lugs,<br>per cental.....do.....  | 7 00 to 8 00      | Ohio and western fac-<br>tory.....per lb.                           | 9 to 10½         |
| common to medium leaf,<br>per cental.....do.....         | 8 00 to 9 50      | Sugar, N. O., common to fair.....do.....                            | 7½ to 9          |
| Wool, fleece-washed, common to<br>fine.....per lb.       | 45 to 50          | N. O., prime to choice.....do.....                                  | 9½ to 9½         |
| tub-washed.....do.....                                   | 53 to 60          | Wool, tub-washed.....do.....  | 40 to 46         |
| unwashed.....do.....                                     | 35 to 38          | fleece-washed.....do.....   | 38 to 43         |
| pulled.....do.....                                       | 35 to 40          | unwashed.....do.....  | 25 to 26         |
|  |                   | pulled.....do.....  | 38 to 44         |
| CINCINNATI.  |                   | SAINT LOUIS.  |                  |
| Flour, superfine.....per bbl.                            | 5 00 to 5 25      | Flour, winter superfine.....per bbl.                                | 3 00 to 4 95     |
| extra.....do.....  | 6 00 to 6 35      | winter extra.....do.....  | 5 00 to 7 00     |
| family and fancy.....do.....                             | 6 50 to 8 25      | winter choice and family,<br>per barrel.....do.....                 | 7 25 to 9 00     |
| Wheat, red winter, No. 1, per<br>bushel.....do.....      | — to 1 35         | Wheat, red winter, No. 1 per bush.<br>red winter, No. 2.....do..... | — to —           |
| red winter, No. 2, per<br>bushel.....do.....             | 1 30 to 1 32      | spring, No. 2.....do.....   | 1 67½ to —       |
| hill.....per bush.                                       | 1 35 to 1 40      | Rye.....do.....   | — to —           |
|  |                   | Barley.....do.....  | 35 to 52         |
|  |                   | Corn.....do.....  | No market.       |
|  |                   | Oats.....do.....  | 41 to 47         |
|  |                   | Hay, prime to choice timothy,<br>per ton.....do.....                | 23 to 38         |
|  |                   |   | 16 00 to 20 00   |

## Market prices of farm-products—Continued.

| Articles.  | Price.             | Articles.  | Price.             |
|--|--------------------|--|--------------------|
| SAINT LOUIS—Continued.                             |                    | NEW ORLEANS—Continued.                               |                    |
| Pork, mess.....per bbl                             | \$15 00 to \$15 75 | Cotton, low middling to good<br>middling.....per lb. | \$0 17½ to \$0 19½ |
| Beef, mess.....do                                  | 14 00 to —         | Tobacco, lugs.....do                                 | 7½ to 9            |
| Lard.....per lb.                                   | 7 to 8½            | low leaf.....do                                      | 9 to 10            |
| Butter, choice dairy.....do                        | 18 to 20           | medium leaf.....do                                   | 10½ to 11          |
| prime straight yellow,<br>per pound                | 14 to 16           | Wool, clear bale.....do                              | 25 to 26           |
| Cheese, choice factory.....per lb.                 | 15 to 15½          | Louisiana, clear.....do                              | 20 to —            |
| Cotton middling.....do                             | — to —             | Sugar, fair.....do                                   | 8½ to 9            |
| Wool, rub-washed.....do                            | 35 to 47           | prime.....do   | 9½ to —            |
| unwashed.....do                                    | 22 to 28½          |  |                    |
| mixed combing.....do                               | 29 to 31           | SAN FRANCISCO.                                       |                    |
| NEW ORLEANS.                                       |                    | Flour, superfine.....per bbl                         | — to —             |
| Flour, superfine.....per bbl                       | 5 00 to —          | extra.....do   | — to —             |
| extras.....do                                      | 5 25 to 6 90       | higher grades.....do                                 | — to —             |
| choice.....do                                      | 7 50 to 9 50       | Wheat, State.....per cental                          | — to —             |
| Corn, white.....per bush                           | 59 to 69           | Oregon.....do  | — to —             |
| mixed.....do                                       | 56 to 57           | Barley.....do  | — to —             |
| Oats.....do  | 40½ to 42          | Oats.....do  | — to —             |
| Hay, choice.....per ton                            | 25 00 to 26 00     | yellow.....do  | — to —             |
| prime.....do                                       | 22 00 to 24 00     | Hay, State.....per ton                               | — to —             |
| Pork, mess.....per bbl                             | 16 75 to 17 00     | Pork, mess.....per bbl                               | — to —             |
| Beef, Texas.....do                                 | 11 00 to —         | prime mess.....do                                    | — to —             |
| northwestern and western,<br>per barrel            | 14 00 to 15 00     | Lard.....per lb                                      | — to —             |
| Lard.....per lb.                                   | 2½ to 10           | Butter, overland.....do                              | — to —             |
| Butter, choice western.....do                      | 23 to —            | California.....do                                    | — to —             |
| choice Goshen.....do                               | 32 to —            | Oregon.....do  | — to —             |
| Cheese, choice western factory,<br>per pound       | 17 00 to —         | Cheese.....do  | — to —             |
| N. Y. cream.....per lb                             | 17 00 to —         | Wool, native.....do                                  | — to —             |
| Cotton, ordinary to good ordi-<br>nary.....per lb. | 12½ to 16½         | Californian.....do                                   | — to —             |
|  |                    | Oregon.....do  | — to —             |

## LIVE-STOCK MARKETS.

| NEW YORK.   |                    | BOSTON—Continued.                                    |                  |
|---|--------------------|--|------------------|
| Cattle, extra choice native steers,<br>per cental                 | \$13 00 to \$13 50 | Sheep, in lots.....do                                | \$3 00 to \$4 00 |
| lower grades, dressing 55<br>to 58 pounds per cwt.,<br>per cental | 9 00 to 12 50      | extra.....do   | 4 50 to 6 50     |
| Texans dressing 55 to 56<br>pounds per cwt., per<br>cental        | 8 50 to 11 00      | spring lambs.....per cental                          | 9 00 to 10 00    |
| milk cows.....per head  | 35 00 to 70 00     | Western fat swine, per<br>cental                     | 5 75 to 6 00     |
| calves, fair to prime, milk-<br>fed.....per cental                | 8 00 to 10 00      | PHILADELPHIA.  |                  |
| common to ordinary, per<br>cental                                 | 6 00 to 7 50       | Cattle, fair to choice beeves, per<br>cental         | 5 75 to 7 75     |
| Sheep, lambs averaging 56 pounds<br>each.....per cental           | 9 50 to 11 00      | common.....per cental                                | 4 50 to 5 50     |
| Ohio sheep averaging from<br>75 to 91 pounds each, per<br>cental  | 4 50 to 6 00       | Sheep, fair to good.....do                           | 4 50 to 5 50     |
| Hogs, good corn-fed.....per cental                                | 5 25 to —          | common.....do  | 2 00 to 3 00     |
| BOSTON.   |                    | Hogs, corn-fed.....do                                | 7 25 to 7 50     |
| Cattle, choice beeves.....per cental                              | 7 25 to —          | BALTIMORE.   |                  |
| extra.....do  | 7 00 to 7 12½      | Cattle, best beeves.....per cental                   | 5 75 to 7 00     |
| first quality.....do  | 6 00 to 6 75       | first quality.....do                                 | 5 25 to 5 75     |
| second quality.....do   | 5 50 to 6 00       | medium or good fair qual-<br>ity per cental          | 4 50 to 5 25     |
| third quality.....do  | 4 75 to 5 00       | ordinary thin steers, oxen<br>or cows.....per cental | 4 00 to 4 50     |
| working-oxen.....per pair   | 100 00 to 275 00   | general average of market,<br>per cental             | — to 5 50        |
| milk cows with calves,<br>per head                                | 35 00 to 60 00     | Sheep, fair to good.....per cental                   | 4 50 to 5 50     |
| extra.....per head  | 65 00 to 90 00     | good to extra.....do                                 | 5 00 to 5 50     |
| farrow cows.....do  | 15 00 to 40 00     | lambs.....per head                                   | 2 00 to 4 00     |
| yearlings.....do  | 10 00 to 18 00     | Hogs, corn-fed, net.....per cental                   | 6 00 to 6 50     |
| veal calves.....do  | 3 00 to 10 00      | CINCINNATI.  |                  |
|   |                    | Cattle, shipping.....per cental                      | 5 00 to 5 75     |
|   |                    | prime butchers.....do                                | 4 75 to 5 00     |



## Live-stock markets—Continued.

| Articles.   | Price.           | Articles.   | Price.           |
|---|------------------|---|------------------|
| CINCINNATI—Continued.   |                  | SAINT LOUIS—Continued.  |                  |
| Cattle, fair to good butchers' per cental.....  | \$3 50 to \$4 50 | Cattle, light uneven stock steers, 500 to 850 pounds, per cental..... | \$2 75 to \$2 25 |
| Sheep, common to prime, per cental.....   | 2 50 to 4 75     | good Texans and Cherokees, corn-fattened, per cental.....             | 4 00 to 4 50     |
| lamb's.....per cental.....  | 4 00 to 6 00     | superior to common Texans.....per cental.....                         | 1 50 to 2 50     |
| Hogs, extreme range of light and heavy averages, per cental.....  | 4 40 to 4 65     | veal calves, common to choice.....per head.....                       | 8 00 to 10 00    |
| CHICAGO.  |                  | cows with calves.....do.....  | 25 00 to 50 00   |
| Cattle, extra graded steers, 1,400 pounds and upward, per cental.....                                     | 5 85 to 6 10     | Sheep.....per cental.....   | 2 02½ to —       |
| choice beefs, fine fat, well formed steers, 3 to 5 years old, 1,250 pounds and upward.....per cental..... | 5 60 to 5 75     | Hogs, extra grades, gross, per cental.....                            | 4 20 to 4 25     |
| good beefs, well fattened, finely formed steers, 1,150 to 1,350 pounds, per cental.....                   | 5 25 to 5 35     | fair, gross.....per cental.....                                       | 4 10 to 4 15     |
| medium grades, steers in fair flesh, 1,050 to 1,200 pounds.....per cental.....                            | 4 80 to 5 15     | common to medium, gross, per cental.....                              | 3 90 to 3 95     |
| butchers' stocks, common to fair steers and good to extra cows, 800 to 1,100 pounds, per cental.....      | 3 50 to 4 75     | Horses, good driving animals, per head.....                           | 100 00 to 175 00 |
| common cattle in decent flesh, 700 to 1,050 pounds, per cental.....                                       | 3 50 to 4 50     | extra driving animals, per head.....                                  | 225 00 to —      |
| Texans, north-wintered, per cental.....   | 3 50 to 4 75     | common to fair animals, per head.....                                 | 85 00 to 110 00  |
| Texans, through droves, per cental.....   | 2 25 to 3 25     | extra.....per head.....   | 140 00 to —      |
| Sheep.....per cental.....   | 3 00 to 4 75     | heavy draught-horses, per head.....                                   | 120 00 to 175 00 |
| Hogs, good to choice.....do.....  | 4 45 to 4 60     | Mules, good heavy animals, per head.....                              | 125 00 to 165 00 |
| poor to medium.....do.....  | 4 20 to 4 40     | extra.....per head.....   | 30 00 to —       |
| SAINT LOUIS.  |                  | 15½ to 16 hands high, per head.....                                   | 120 00 to 150 00 |
| Cattle, choice native steers, 1,300 to 1,600 pounds, per cental.....                                      | 5 50 to 5 75     | extra.....per head.....   | 175 00 to —      |
| prime second-class natives, 1,150 to 1,400 pounds, per cental.....  | 4 75 to 5 00     | NEW ORLEANS.  |                  |
| good third-grade natives, 1,050 to 1,300 pounds, per cental.....  | 4 00 to 4 50     | Cattle, Texas beefs, corn-fed second quality.....per head.....        | 40 00 to 50 00   |
| fair butchers' steers, 1,000 to 1,200 pounds, per cental.....   | 4 25 to 4 50     | Texas beefs, choice, per head.....                                    | 50 00 to —       |
|   |                  | Texas beefs, first quality, per head.....                             | 35 00 to 45 00   |
|   |                  | Texas beefs, second quality.....per head.....                         | 20 00 to 28 00   |
|   |                  | Western beefs, per cental.....  | 10 00 to 12 00   |
|   |                  | Milch cows.....per head.....  | 35 00 to 50 06   |
|   |                  | Milch cows, choice, per head.....                                     | 80 00 to 100 00  |
|   |                  | calves.....per head.....  | 7 00 to 10 00    |
|   |                  | Hogs, gross.....per cental.....                                       | 6 00 to 7 00     |
|   |                  | Sheep, first quality.....per head.....                                | 4 00 to 5 00     |
|   |                  | second quality.....do.....  | 3 00 to 4 05     |

## FOREIGN MARKETS.

WHEAT.—The conditions of wheat-growth during May were nowhere remarkably encouraging. April had been very cold, while in Northern Germany the temperature was disastrous to vegetation. It did some damage to wheat in Holland and Belgium. Injuries were also reported in France and Spain, but subsequent information showed these reports to be both exaggerated and premature. May-day in England brought a more genial temperature, but the rain-fall in many localities was seriously injurious to vegetation. May exhibited a remarkable variation of temperature; the unseasonable cold of the middle caused the fires to be rekindled upon the hearth; the weather, however, greatly improved toward the close. The cutting winds on the first of June turned some French fields yellow, while in Hungary the injuries were so serious that large growers turned speculators, and bought freely for future delivery. The month closed with favorable prospects in Spain and Algeria. On

the continent generally, however, the inequalities of the season injured the wheat prospects.

In England the unpropitious fall-sowing season had caused farmers to reserve at least 500,000 acres destined to wheat for spring crops. The long continuance of wet weather also caused much of the seed sown to rot, while much of the crop that came up was feeble. The weekly deliveries, about May 1, were 11,400 quarters less than at the same time last year, yet the exhaustion of farmers' stocks had become apparent. An equable growing season was necessary to preserve the imperfect promise left. The consequence was an upward tendency of prices more marked than at any previous period. The injuries to the German crop had created a temporary export of cheaper English wheats to Hamburg, which still further depleted the native stock. During the second week in May the local deliveries in England increased 4,000 quarters, but fell, the following week, 2,713, or 8,288, short of the corresponding week of 1872. The opening of the New York canals depressed prices, but the reports of deficient rain-fall in California tended to stiffen them up. Australia also showed signs of a diminished export. English stocks had diminished to one-third of their maximum, while a demand for floating cargoes was developed on the continent. All these circumstances, with a growing crop three weeks behind, tended to elevate prices.

The imports of foreign wheat into the United Kingdom during each of the five weeks ending in May were as follows: May 3, 516,155 cwts.; May 10, 601,574 cwts.; May 17, 568,409 cwts.; May 24, 246,066 cwts.; May 31, 1,130,321 cwts.; total, 3,062,535 cwts. The London average prices during these weeks were as follows: May 3, 55s. 9d. per quarter on 4,427 quarters; May 10, 53s. 3d. on 5,324 quarters; May 17, 54s. 5d. on 4,344 quarters; May 24, 55s. 3d. on 4,987 quarters; May 31, 54s. 10d. on 1,720 quarters.

The Mark Lane (London) prices per quarter of wheat during May were as follows: English wheats—Essex and Kent, old white 58s. to 68s.; do. new white, 50s. to 56s.; do. new fine, 65s. to 67s.; do. old red, 59s. to 64s.; do. new red, 50s. to 56s.; do. new red, fine, 62s. to 64s. Norfolk, Lincolnshire, and Yorkshire, 56s. to 63s. Foreign wheats—Dantzic, 60s. to 66s.; Extra do., 68s. to 72s.; Königsberg, 60s. to 65s.; do. extra, 64s. to 70s.; Rostock, 60s. to 64s.; Siberian red, 57s. to 62s.; do. white, 63s. to 67s.; Pomerania, Mecklenberg, and Uckermark, 59s. to 64s.; Russian, hard, 47s. to 53s.; Saint Petersburg and Riga, 55s. to 62s.; Danish and Holstein, red, 58s. to 62s.; American, 57s. to 61s.; Chilian, white, 60s.; California, 61s.; Australian, 62s. to 64s.

The Liverpool prices per cental were as follows: American white winter, 13s. to 14s.; do. red winter and southern, 12s. to 12s. 9d.; do. spring No. 1, 12s. to 12s. 8d.; do. spring No. 2, 11s. 9d. to 12s. 3d.; Canadian white, 12s. 6d. to 13s.; do. red, 12s. to 12s. 8d.; California white, 11s. 10d. to 12s. 10d.; Chilian white, 11s. 9d. to 12s. 3d.; French white, 12s. 6d.; do. red, 11s. 7d. to 12s. 1d.; Spanish white, 12s. to 12s. 2d.; Danubian, 7s. 9d.; Ghirka, 10s. 4d. to 11s.; Egyptian, 8s. 9d. to 11s. 6d.

The Paris prices per quarter were as follows: Best white, 65s. to 67s.; best red, 62s. to 64s. 6d.; California, 60s. 3d. to 63s.; Chili, 60s. 3d. to 62s.

**FLOUR.**—The imports of flour into the United Kingdom during the five weeks ending May 31, amounted to 518,214 cwts. The native flour was generally in good supply, and its best brands maintained their prices during the month. Foreign arrivals became more extensive as the month advanced. English flour, in Mark Lane, per 280 pounds, brought the following prices; Best town households, 47s. to 54s.; best

county households, 43s. to 46s.; Norfolk and Suffolk, 36s. to 41s.; American, (per barrel,) 26s. to 29s.; extra, 30s. to 31s.

In Liverpool, per 280 pounds, English and Irish superfines brought 40s. to 42s.; extra do., 43s. to 51s.; French, 48s. to 53s. 6d.; Spanish, 44s. to 46s.; Trieste and Hungarian, 64s. to 76s.; Chilian and California, 42s. to 48s.; American, western State, (per barrel,) 28s. to 31s.; extra State, 30s. to 34s.; Baltimore and Philadelphia, 30s. to 35s.; Ohio, 31s. to 35s.; Canadian, 32s. to 34s.

In Paris prices tended upward during the first half of the month, and ranged from 44s. 10d. to 49s. 4d.

MAIZE.—*London*. White, per quarter, 31s. to 33s.; yellow, 27s. to 29s.

*Liverpool*. American white, per quarter, 31s. to 33s.; do. yellow, 27s. 6d. to 28s.; Trieste, 27s. 6d. to 28s.; Danubian, 27s. 6d. to 29s.; Galatz, 28s. 6d. to 29s. 6d.

WOOL.—The wool trade exhibited no special activity. At the regular sales of colonial wool Australian was in good request, and brought steady prices. The uniform quotations of the first three weeks of May were as follows: Southdown hoggets, 1s. 10d. to 1s. 11d. per pound; half-breed do., the same; Kent fleeces went a half-penny higher; Southdown ewes and wethers, 1s. 5d. to 1s. 6d.; Leicester, 1s. 9d. to 1s. 10d. The month closed with a general reduction of half-penny upon the above prices.

BUTTER.—Dorset, 120s. to 124s. per cwt.; Friesland, 93s. to 106s.; Jersey, 88s. to 98s.

CHEESE.—Cheshire, 80s. to 90s. per cwt.; double Gloucester, (new,) 70s. to 82s.; Cheddar, 80s. to 94s.; American, 60s. to 80s.

LIVE-STOCK.—During the last week in May the total imports of foreign live-stock into London amounted to 16,147 head; the receipts of the corresponding week of several previous years were as follows: 1871, 17,195; 1870, 17,868; 1869, 16,637; 1868, 5,907. Of the receipts of the week ending May 31, 1873, 1,109 were cattle, 13,556, sheep and lambs, 788 calves, 694 pigs. The prices during that week ranged as follows: Coarse and inferior beasts, (per 8 pounds,) 5s. 4d. to 5s. 8d.; second quality, 5s. 10d. to 6s.; prime large oxen, 6s. 2d. to 6s. 4d.; prime Scots, short-horns, &c., 6s. 6d. to 6s. 8d.; coarse and inferior sheep, 5s. to 5s. 6d.; second quality, 5s. 8d. to 6s.; prime coarse woolled, 6s. to 6s. 2d.; prime Southdowns, 6s. 2d. to 6s. 4d.; large coarse calves, 5s. to 5s. 8d.; prime small do., 6s. to 6s. 6d.; large hogs, 4s. 4d. to 4s. 10d.; small porkers, 5s. to 5s. 6d.; lambs, 8s. to 8s. 6d.



